# PROCESSOR.

**Products, News & Information Data Centers Can Trust.**   **Since 1979**

# Before You Build Your Data Center

## Construction Factors To Consider Ahead Of Time

*by Christian Perry*

THE PANAMA CANAL? That was nothing. Whether you're constructing a new building or remodeling your existing space, you'll quickly discover that planning for a new data center entails more details than you'd seemingly need to connect the Atlantic and Pacific oceans. Sorting those details can be a monumental task but not one that's impossible, particularly if you take one step at a time. While it's tempting to dive into the primary elements of technology, power, and cooling, you're better served by first stepping back and determining the purpose of your upcoming data center so that those other pieces fall into place in logical fashion.

### Define The Purpose

Doug Alger, data center manager for Cisco's Data Center Infrastructure Team and author of "Build The Best Data Center Facility For Your Business," explains that

if you want a data center that must be up at all times, you're going to need significantly more infrastructure than someone who can afford a certain amount of downtime now and then.

"A big piece of it is understanding who your clients are and what services are going to be provided out of that room," Alger says. "Say hypothetically you're a company that does a lot of business over the Web, and you're going to have the servers that provide

all of that functionality in your data center, and your sales are based on people being able to access your Web site. It's probably pretty important that your data center is up just about all the time."

On the flip side of the coin, if your data center will be serving less critical functions and can afford the occasional outage, whether for maintenance or even due to a local power outage, your equipment can reflect that flexibility. Determining how much leeway, if any, you'll have with your new data center is integral to choosing the proper equipment, so it's imperative that your planning involves every person who will touch the data center when it's up and running.

"It ends up being a really cross-functional environment," Alger notes. "You have your networking person who's going to be involved with that equipment. You have system administrators on the IT side who are going to be supporting individual servers. You may have a corporate security person. All of those people can provide some good input that will influence how you design the room."

# Get The Most From Your Software Investment

## Training Employees To Use The Bells & Whistles For Increased Productivity

*by Tony Bradley*

IF YOU ARE LIKE many people, there is a good chance you have some piece of exercise equipment collecting dust in your basement or acting as a high-tech clothes hanger in some corner of your bedroom. You invested hundreds of dollars to buy equipment designed for a specific purpose, and the resulting lack of knowledge or disci-

pline to use it properly means that the money was wasted.

For corporate IT departments, the wasted investment collecting dust rather than yielding results is often their investment in software. Studies suggest that as much as 90 cents of every dollar invested in software is wasted because the employees using it don't have the training and knowledge to use it properly and efficiently.

### If Only It Could Do That

Oftentimes users are frustrated with an application and wish it had this functionality or that feature. Often the application has the feature or functionality, but the individual doesn't know how to use it. Susan Bradley, Microsoft Small Business Server guru, says, "The entire look of [Microsoft] Office has been redesigned. Why? Because when they asked for feedback for new features, the bulk of the requests came for items that were already there."

Office productivity suites such as Microsoft Office have become so ubiquitous that employers often simply assume that employees should be familiar enough with products such as word processing or spreadsheet applications that they should not need training. The popularity of books such as "Word 2003 Personal Trainer" or "Excel Hacks" suggests this is not the case.

### Get Certified

Andrew Cardwell, computer security officer at BT Openworld,

---

**Product Releases** | 16

■ **AdventNet** introduced a free edition of its NetFlow Analyzer bandwidth-monitoring software. ■ **Circuit Systems** released Fone Folio, which lets users view Windows files on a Java- or WAP-enabled cell phone. ■ The V.I.P. from **Datanode** is a new unified threat management appliance for business networks. ■ **D-Link** announced its new Meshed Wireless Local Area Network products. ■ **Liquid Machines** released its BlackBerry Gateway for Rights Management Service. ■ **Network Appliance** and **IBM** launched the IBM System Storage N5000. ■ **Stulz-ATS** is targeting its new coolant modulating unit at businesses that want to use building infrastructure to handle heat loads. ■ **Tablus** announced Tablus Content Sentinel, which is designed to find and fix uncontrolled data in networks, laptops, desktops, and other computing devices. ■ **Trend Micro** announced a new Worry-Free Security initiative.

The Processor.com home page is updated each week with new articles and hardware news to help you keep current.
**Visit www.processor.com today.**

## Subscribe Today / Address Change Form

For address change, fill out form below with new information and mail or fax.

**PLEASE PRINT**

Phone: ( _____ )_____  Fax: ( _____ )_____

Contact Name: _____

Company Name:  _____

Address:  _____

City: _____ State: _____ Postal Code: _____

Country:_____

E-mail: _____ Web Address:_____

**1. What is the size of your company (how many employees)?**
- ☐ Less than 10
- ☐ 10 - 99
- ☐ 100 - 199
- ☐ 200 - 499
- ☐ 500 - 999
- ☐ 1,000+

**2. How often do you purchase computer hardware/software?**
- ☐ Weekly
- ☐ Bi-Weekly
- ☐ Monthly
- ☐ Quarterly
- ☐ Annually
- ☐ No Involvement

**3. What is your annual computer hardware/ software purchasing budget?**
- ☐ $0 - $9,999
- ☐ $10,000 - $24,999
- ☐ $25,000 - $49,999
- ☐ $50,000 - $99,999
- ☐ $100,000 - $249,999
- ☐ $250,000 - $499,999
- ☐ $500,000 - $999,000
- ☐ $1,000,000+

# PROCESSOR.

Subscriptions: (800) 819-9014
Subscriptions Local: (402) 479-2170
Subscriptions Fax: (402) 479-2123
Mail Form To:
  PO Box 85518, Lincoln, NE 68501-5518
Overnight Delivery:
  120 West Harvest Drive, Lincoln, NE 68521

**www.processor.com**

# Solution ▲▼ INDEX

# Advertisers ▲▼ INDEX

# MarketPlace ▲▼ NEWS

## U.S. Will Retain Control Over Internet Addressing System

**A NEW DEAL** reached by negotiators from more than 100 countries means the United States, via ICANN, will still maintain the Internet's root zone file, which is essentially a master file of the Internet's top-level domains. Several countries, including China and Brazil, had been pushing to develop an international body to control the Internet addressing system. Critics of the central body feared it would slow innovation, while proponents feared the United States could someday essentially unplug a nation from the Internet by redirecting its country code. The deal was reached during the World Summit on the Information Society, which was originally set up to focus on finding ways to provide advanced communications to developing countries.

## Trade Group Calls For National Security Standard

**MORE THAN 20 STATES** have enacted data security and breach notification laws, resulting in possible confusion for consumers, businesses, and law enforcement, according to the SIIA (Software & Information Industry Association). Because of this, the SIIA is urging Congress to establish a national standard dictating what companies that handle personal information must do to protect that data and notify customers if there's a security breach. The SIIA believes any national standard must clarify the definition of sensitive personal information and avoid vague wording that could result in loopholes.

## Firefox Celebrates First Anniversary

**IT'S BEEN ONE YEAR** since Firefox made its debut. During that time, users have downloaded more than 106 million copies of the browser, according to the Mozilla Foundation, which worked on developing Firefox. And according to NetApplications, Firefox now has an 8.65% market share, taking a somewhat-sizable dent out of Internet Explorer's market share. Mozilla plans to release Firefox 1.5 within a few weeks, with Firefox 2 released mid-2006 and Firefox 3 released in early 2007.

## Amazon.com Joins S&P 500

**INTERNET RETAILING GIANT** Amazon.com joined the Standard & Poor's 500. The company replaced AT&T, which is being acquired by SBC Communications. SBC and AT&T previously had separate listings and will now be listed together. Amazon.com shares were up 6% after the news; the online retailer is the second-most popular Internet commerce site behind eBay.

## HP Opens China Labs

**HP LABS HAS OPENED** a division in Beijing, China. The laboratory will focus on helping Chinese enterprises better process information, transactions, and content. Two initial projects include creating a massive online database with content from dozens of university museums in China and helping the Ministry Of Education collect data from Chinese universities and incorporate that data into the China Education Research Network.

## Apple Wants "Tamper-Resistant" Software

**AS APPLE PREPARES TO** move toward offering a version of the Mac OS that runs on Intel-based chips, the company has filed a patent to prevent users from running Mac software on anything other than a Mac. Apple wants to develop tamper-resistant code, ensuring that certain code can only be run on specific hardware. Although Apple has said it has no plans to offer Windows on Intel-based Macs, the company realizes that Mac owners may try to do it themselves and will not preclude them from doing so.

## Microsoft Memo Warns Of "Sea Change"

**MICROSOFT CHAIRMAN** Bill Gates sent a memo to top executives at the software giant warning that a massive and disruptive "sea change" is taking place as the IT industry shifts to software and services based on the Internet. Gates encouraged execs to "act quickly and decisively" in providing more Web-based offerings but also stressed the need to create the right technology for the right audience. The message included ideas from Ray Ozzie, one of Microsoft's CTOs, about possible enterprise-wide changes to make Microsoft more competitive with firms such as Google and Yahoo! that offer Internet-based technologies.

## Big Names Fund Linux Patent Group

**TECHNOLOGY GIANTS** IBM, Novell, Red Hat, and Sony are among the companies who have joined together to fund the Open Invention Network, an organization that will acquire patents and then make them widely available, royalty-free, to promote Linux. Any individual, company, or institution that agrees not to assert its patents against the Linux open-source operating system or certain Linux-related applications will be eligible recipients. Jerry Rosenthal, who was most recently IBM's vice president of Intellectual Property and Licensing, will lead the Open Invention Network.

## Dell Third-Quarter Profits Down 28%

**PC MAKER DELL REPORTED** its third quarter net income dropped from last year's $846 million, or 33 cents per share, to $606 million, or 25 cents a share. Despite the drop of 28% in profits, the company's 3Q sales increased 11% over last year's, rising to $13.9 billion. Mainly because of the declining trend in the sale of desktop computers, third-quarter earnings and revenue were lower than previous expectations. However, Dell forecasts a 4Q profit of between 40 and 42 cents a share and sales rising to between $14.6 billion and $15 billion.

## FTC Shuts Down Adware Ring

**THE FEDERAL TRADE COMMISSION** ordered a U.S. federal court to permanently shut down three adware and spyware suppliers: Enternet Media, Conspy & Co., and Networld One. The FTC charged that these companies allegedly lured users by offering free music lyric files, ringtones, and browser upgrades and then downloaded spyware and adware on the users' computers. In addition, the court shut down iwebtunes.com, an affiliate that had been offering free background music for blogs and then spreading adware and spyware. The FTC ordered ill-gotten gains from the firms' dealings to be returned to users.

## IBM Leads Top500 Supercomputer List

**THE BIANNUAL TOP500** list of supercomputers reveals IBM continues to lead with the most supercomputers on the list at 43.8%, followed by HP with 33.8%. IBM's BlueGene/L System at the U.S. Department of Energy's Lawrence Livermore National Laboratories came in first place as the fastest computer in the world for the third straight year, reaching a record of 280.6 teraflops per second. Of the 500 computers, Intel chips power 333, IBM's Power chips are in 73, and AMD's processors power 55. The United States has 305 of the 500 systems, followed by 100 from Europe and 66 from Asia.

## New Developments For CA

**SOFTWARE VENDOR CA,** which has dropped the name Computer Associates and switched to just the nickname, has rebranded itself and is starting fresh, CEO John Swainson announced at the CA Show. The company has poised itself for rapid growth with recent vendor acquisitions, restructured management, and 18 months of new product development. CA plans to launch two dozen new products, all of which are built on an integrated technology platform. Swainson says his priorities for CA include expanding the company's network of partners and repairing damaged customer relationships.

## WATCH THE STOCKS

This information provides a quick glimpse of current and historical stock prices and trends for 16 major companies in the technology market.

| Company | Symbol | Year Ago | Nov. 9 $ | Nov. 15 $ | % change from previous week |
|---|---|---|---|---|---|
| Avaya | AV | $16.45 | $10.74 | $11.41 | ▲ 6.24% |
| BEA Systems | BEAS | $8.66 | $9.21 | $9.25 | ▲ 0.43% |
| Computer Associates | CA | $29.89 | $28.86 | $28.43 | ▼ 1.49% |
| Cisco Systems | CSCO | $19.38 | $17.75 | $17.27 | ▼ 2.7% |
| Dell | DELL | $40.40 | $29.02 | $29.81 | ▲ 2.72% |
| Electronic Data Systems | EDS | $22.56 | $23.95 | $23.70 | ▼ 1.04% |
| Google | GOOG | $172.54 | $379.15 | $392.80 | ▲ 3.6% |
| HP | HPQ | $19.68 | $28.23 | $28.12 | ▼ 0.39% |
| IBM | IBM | $94.89 | $82.84 | $85.53 | ▲ 3.25% |
| Intel | INTC | $23.84 | $24.80 | $25.08 | ▲ 1.13% |
| McAfee | MFE | $27.52 | $29.45 | $29.48 | ▲ 0.1% |
| Microsoft | MSFT | $27.12 | $26.96 | $27.50 | ▲ 2% |
| Oracle | ORCL | $12.92 | $12.51 | $12.67 | ▲ 1.28% |
| Red Hat Software | RHAT | $12.96 | $24.02 | $22.99 | ▼ 4.29% |
| Sun Microsystems | SUNW | $4.96 | $3.78 | $3.68 | ▼ 2.65% |
| Symantec | SYMC | N/A | $19.11 | $19.15 | ▲ 0.21% |

*NOTE: This information is meant for reference only and should not be used as a basis for buy/sell decisions.*

# Fire Protection Without Halon

## Find The Right Replacement For Halon-Based Systems

*by Paul Ferrill*

• • •

PRIOR TO 1994 the fire protection system of choice for electronic equipment was based on halon gas. That all changed with laws enacted to protect the environment, specifically the ozone layer, from a list of "dangerous" substances. Under the Clean Air Act, the United States banned the production and import of virgin Halons 1211, 1301, and 2402 beginning Jan. 1, 1994, in compliance with the Montreal protocol on substances that deplete the ozone layer. Recycled halon and inventories produced before Jan. 1, 1994, are now the only sources of supply.

In 1998 the EPA published its final rule (63 FR 11084), which banned the formulation of any blend of two or more of these halons, with one exception. The exemption was for halon blends formulated using recycled halon solely for the purpose of aviation fire protection, provided that blends produced under this exemption are recycled to meet the relevant purity standards for each individual halon.

The same rule prohibits the intentional release of Halon 1211, Halon 1301, and Halon 2402 during the testing, repairing, maintaining, servicing, or disposal of halon-containing equipment or during the use of such equipment for technician training. The rule also requires appropriate training of technicians regarding emissions reduction and proper disposal of halon and equipment that contains halon.

## What Makes A Fire

If you've ever taken a basic fire safety course, you know that it takes three things to make a fire: fuel, heat, and oxygen, known as the fire triangle. To put a fire out, you simply need to take away one of those three factors.

Fires are categorized into five different classes: A, B, C, D, and K. Each class of fire has a slightly different characteristic, from common combustible items in class A to flammable liquids in class B to fires that involve energized electrical equipment in class C. These are the fires of primary concern to most IT managers, and each requires a special type of handling.

Many computer room fire protection systems installed prior to 1994 used a pressurized halon system to displace the oxygen and thus put out the fire. This method had a number of flaws, not the least of which is the potential harm to humans if the oxygen is removed from a room or if a significant amount of halon is inhaled. Halons have also been determined to be a cause of ozone depletion, along with a number of other commonly used gasses, such as freon.

While the Clean Air Act outlawed the production of halon, it didn't prohibit the use of all the existing systems. It did make it difficult to deal with and impractical to install new systems that use halon gas. This opened up a whole new market for halon replacement systems.

The National Fire Protection Association is the publisher of various standards related to fire protection. NFPA 12A is the standard for Halon 1301-based systems and describes in detail what each system must have to be compliant. Other standards and publications from the NFPA describe newer nonhalon systems along with practices and guides for installation and inspection of new systems.

## Ansul Systems

The Sapphire product from Ansul uses a chemical fluid manufactured by 3M (Novec 1230 Fire Protection Fluid) as the active agent. 3M's fire suppressant looks like water and upon discharge becomes a gas. It's not harmful to humans and evaporates about 50 times faster than water. It does its job by attacking the heat portion of the fire triangle.

A complete system includes fire and smoke detection sensors tied into a control system that will discharge the agent if it detects that a fire is present. The fluid is stored in a cylinder and expelled as a vapor upon actuation. Novec 1230 is also nonconductive, so it won't short out electrical equipment as water will.

This system has sold very well in Europe where halon has been totally banned as of Dec. 31, 2003. These systems have also become popular as a protection for museums and libraries.

## Fike

The fire protection industry's most widely accepted alternative to Halon 1301 systems has been HFC-227ea (FE-227 or FM-200).

Unfortunately, with HFC-227ea systems, many of the benefits the industry had with Halon 1301 were lost. The negative factors of HFC-227ea are its slower, heavier flow characteristics, greater agent quantity in volume, and, most importantly, the overall cost of the system.

Fike's answer to this problem is ECARO-25. ECARO-25 utilizes the DuPont FE-25 (HFC-125) fire extinguishing agent to offer a number of benefits to systems compared to HFC-227ea. These include a lower volume of agent (20% less than HFC-227ea) required due to the reduced vapor density of HFC-125, which leads to a more economical fire protection system. Additionally, because of its increased vapor pressure, it flows quicker and easier than HFC-227ea.

HFC-125 is an environmentally preferred alternative to Halon 1301. Unlike halon, HFC-125 does not contain chlorine or bromine and therefore has a zero ozone-depletion potential. ECARO-25 is environmentally accepted by the EPA and is available for valuable asset fire protection in industries such as communications, healthcare, museums, manufacturing, and electronics.

## Firelock

Firelock takes a slightly different approach to the problem of

protecting computer assets. The company's Firelock Modular Vault product is a complete enclosure with special environmental monitors and fire protection equipment. Special camera units allow video monitoring of the enclosure from a remote location.

These vaults are meant to house computers and computer media but not people. The idea is you would put one of these enclosures in the corner of a warehouse or build it into a new building and operate the computers over a network. The fire protection equipment is based on the 3M Novec 1230 fluid and doesn't require as much agent as other systems because of the sealed nature of the vault.

## Fireaway

Fireaway recently acquired the Aero-K product line from Sensor Electronics and now manufactures the Aero-K, which Fireaway has integrated into its Stat-X line of fire suppression products. The Aero-K is a fast, safe, and reliable potassium-based aerosol fire suppression system that extinguishes fire in seconds, is environmentally friendly, and protects electronic equipment, media, and personnel.

A typical installation in an 8- x 14-foot room with 8-foot ceilings would include two 100-gram

## Buying Tips

Here are some questions to answer when you are considering purchasing a fire protection system for your small to midsized enterprise.

- Do you have a reliable source of halon for the foreseeable future should your systems need to be recharged?

- Will there be any new construction that will require fire protection?

- Are there any other systems needing fire protection that could be moved into a central room to help consolidate costs and equipment?

- Do you have employees who must be in the computer room on a regular basis?

Aero-K generators, two types of detectors, a control panel, a manual pull station, strobe lights, an abort switch, and various other smaller items.

# PROCESSOR®
## SHOWCASE

The *Processor* Showcase section features new products and services available from hot new manufacturers, as well as the old standbys. It's an easy way to compare products and discover new technologies and solutions, so refer to it for all your buying decisions.

Your guide to products featured in the Showcase section:

**Services**
Design, Development, Hosting, Implementation, Manufacturing, Security, Training

**Software**
Application Development, Business Productivity, Communications, Security, System Management

**End Nodes**
Components, KVM, Mobile Devices, Monitors, Peripherals, Servers, Systems

**Communications**
Network Security, Routers, Storage Networking, Switches, Telephony, Wireless

**Physical Infrastructure**
Cabling, Environmental Controls, Fire Protection, Power Distribution, Racks

---

## Cabling
www.Processor.com/CablesForLess

**We can meet your copper and fiber cable needs!**
- 350MHz Cat5e Patch Cables
- Crossover cables are ideal for 2 system networks or linking other equipment such as hubs and routers together
- Patch Cables - From 1 to 100 feet in a variety of colors
- Bulk 1000' Rolls of Networking Cable
- Face Plates, Wall-Jacks and More
- Fiber Optic Jumper Cables, all kinds

### Cables For Less

266 Southbridge St.
Phone: (800) 273-9556

Mooresville, IN 41658
Fax: (317) 834-4716

---

## Cabling
www.Processor.com/ESL

**Fiber Optic Patch Cables**
- All connectors: LC, SC, FC, ST, FDDI, ESCON, MTRJ.
- Duplex, Simplex, PVC or Plenum
- Multimode, 50/125, 62.5/125. Single Mode, 9/125.
- MTP®/MPO Fanout Assemblies with QuickConnect cassettes

**Electro Standards Laboratories**
ADVANCED SYSTEMS DESIGN & SERVICES

36 Western Industrial Drive
Cranston, RI 02921
Phone: (877) 943-1164
Fax: (401) 946-5790

---

## OEM Cabling
www.Processor.com/ControlCable

Control Cable specializes in rapid turnaround of basic custom length cable assemblies and intricate wiring harness work. From custom pigtails to military circular connectors, pre-wired 66 and 110 blocks and panels to box assembly & harness wiring, our dynamic & versatile shop is swift & reliable. Send us your engineering drawings or take advantage of our free design assistance.

**Control Cable inc**
Get **Connected**. Get **Control**.

7261 Ambassador Road
Phone: (410) 298-4411

Windsor Mill, MD 21244
Fax: (410) 265-1646

---

## OEM Cabling
www.Processor.com/GoCables

GoCables offers standard & custom cable assemblies designed for any application. All of our cable assemblies are available with custom colors, lengths & configurations. We offer high-speed, low-interface cables that can be built for special environments, sizes & configurations. Our OEM solutions include custom labeling, custom pinning, molded parts, wiring harnesses, custom colors & much more.

**GoCables**

16800 Edwards Road
Cerritos, CA 90703
Phone: (800) 555-7176
Fax: (562) 356-3200

---

## Media Converter
www.Processor.com/Versitron

**VersiVision Fiber Optic Video Transceivers:**
- Send a CCTV Video Camera Signal over Fiber Optic Cable
- Compatible with NTSC, PAL or SECAM
- ST, SC Optical Connectors and BNC for Copper Interface
- Singlemode or Multimode Fiber
- Rackmount or Standalone - Lifetime Warranty

**VERSITRON**
Your Copper-to-Fiber Connection

83 Able Drive - Suite C
Newark, DE 19702
Phone: (800) 537-2296
Fax: (302) 894-0699

---

## Cable Management
www.Processor.com/ISC

**19" Rackmount Horizontal Cable Management**

These products work great for relay racks, network racks, server racks and other 19" rackmount storage units.
See our wide range of cable management options.
**www.iscdfw.com**
call for more information

**ISC Information Support Concepts, INC**

714 N. Watson Road, Ste 302
Phone: (800) 458-6255

Arlington, TX 76011
Fax: (817) 649-1770

---

## Cable Management
www.Processor.com/Panduit2

- Designed to manage high-density network cabling while minimizing floor space requirements
- Eliminates the need for horizontal cable managers when used with *PANDUIT* angled patch panels
- Cable management fingers with integral bend radius control align with rack spaces to support cables as they transition into the vertical pathway

**PatchRunner Cable Management**

**PANDUIT®**

17301 Ridgeland Avenue
Tinley Park, IL 60477
Phone: (800) 777-3300
Fax: (708)-532-1811

---

## Cable Management
www.Processor.com/Panduit3

- FiberRunner Routing System
- Fastest Installations - QuikLock couplers and brackets reduce system installation time dramatically
- Easy to Maintain - provide access to cable without removing any covers or compromising cable security
- Strong and Versatile - available in 12x4, 6x4, 4x4 and 2x2 sizes; compliant with Telcordia GR-63-CORE NEBS

**PANDUIT®**

17301 Ridgeland Avenue
Tinley Park, IL 60477
Phone: (800) 777-3300
Fax: (708)-532-1811

---

## Cable Management
www.Processor.com/APA

APA Cables & Networks' (APACN) F23 Fiber Distribution System (FDS) is engineered for broadband and enterprise connectivity applications. The FDS consists of termination and splice panels, frames and accessories. The FDS is designed to reduce risk of post installation damage, lower maintenance cost and enhance system life. The F23 144 port fiber panel offers the highest port density in the smallest footprint available.

**APA Cables & Networks, Inc**
a personalized approach

5480 Nathan Lane
Phone: (763) 476-6866

Plymouth, MN 55442
Fax: (763) 475-8457

# Get To The Basics

## Electrical, Cabling & Fire Detection Planning All Key To Data Center Success

*by Ericka Chickowski*

• • •

DESIGNING A NEW data center can be a very complicated process, and as IT professionals, it is easy to get wrapped up in the technology elements of the new facility. But before you worry about things like servers, storage units, or switches, you need to get down to the basics and plan the foundation of what connects all of this equipment.

Power planning is critical to the success of a new data center, as are the related considerations surrounding cabling (getting power from here to there) and fire detection (making sure those wires don't burn).

### Electrical Logistics

New data centers continue to increase in density. Although it may seem like you can pack a lot of equipment into your new design, it is critical to consider whether you'll be able to power it all.

"What has been happening is that as equipment gets smaller and smaller, people want to put more equipment on the raised floor," says Tim Dueck, managing principal for Reliable Resources, a data center design consultancy. "But what many companies have found is that they have plenty of room for equipment, but they can't connect because they don't have enough electrical capacity."

Planning for electrical capacity involves two considerations. First, will your UPS and PDU equipment be able to handle the load? Second, will there be enough room to circulate air for the cooling of these heat-generating power sources?

In the case of power calculations, vendors such as APC and TrippLite are usually willing to help you calculate your needs. APC offers a line especially for smaller data centers called the Smart UPS VT, which offers between 10 and 40kVA. Prices start at $11,600. Another power standard is Liebert, whose Series 610 UPS is an option for data center power distribution. TrippLite offers online UPS systems for smaller applications starting as low as $509 for 1000VA and moving up for greater power needs.

Once you've figured out how to make enough clean power available to the data center, it is also critical to remember the second part of electrical planning.

"One of the things we see quite often is tremendous amount of planning of upstream electrical and a lack of more detailed planning of power from the PDU to the actual IT devices and server cabinets that are going to require power," says Steven Harris, director of data center planning and design for Forsythe.

Upstream planning is important, but when you don't plan the last bit of distribution, you end up clogging the data center with cords you didn't realize you needed and spending more than you'd budgeted.

"The problem is that they underestimate what it is going to cost to get that final distribution of power," Harris says. "Sometimes you might need twice as many cables and power whips than you would have initially thought."

### Avoiding The Rat's Nest

This leads us to the discussion about cable organization and planning. Air circulation goes hand in hand with power output in a data center. If you can't cool that state-of-the-art UPS and PDU combination, it won't do a lot of good. Because one of the biggest obstacles (literally) to good airflow is poor cable placement, it should be a top priority when designing a new data center.

Before you plan your electrical wiring and cabling logistics, there is one other dynamic you must consider: the depth of your raised floor.

"If you have a raised-floor environment, how you plan your cabling depends on the depth you've got your floor at," Harris says. "Hopefully it will be at least 18 inches, preferably at 24 inches. If you've got it that high, you can do air distribution, electrical, and all other cabling underfloor."

When the raised floor depth is below 18 inches, Harris says, it's time to prioritize. "A lot of businesses only have about 12 inches, and if that is the case and you are distributing air underfloor, then that is your priority No. 1," he says.



Many companies manufacture products designed to help manage and control cables. The Fast-Drop line of devices from Device Technologies is just one example.

Sometimes when space is at a minimum under the floor, businesses just run their high-voltage wires under the floor while running the low-voltage cabling overhead. By separating cables this way, it is also easier to avoid tangles and electromagnetic problems.



"If you are running it all underfloor, you risk that big rat's nest," Harris says. "And with lots of high-voltage and low-voltage wiring next to one another, there are going to be electromagnetic fields that could cause communications issues that you may not even be aware of."

Regardless of whether you decide to run cable above or below ground, there are a number of affordable and innovative cable management products available to keep things neat and tidy. Snake Tray offers several lines of tray products that feature its bendable steel tray. It can be installed underfloor or overhead or attached to adjacent walls. In addition, it offers its own line of cable fasteners and accessories, as well as module-based power distribution units.

Panduit also offers a line of cable management products, including horizontal and vertical ladder racking options. Panduit sells a line of Fibre cable management products and its own cabling accessories.

In the case of accessories, if you are concerned for quality, another choice is Rip Tie Cable Management Products. Rip Tie makes durable fasteners, straps, ties, and tags for high-use environments.

Harris says that when choosing, the best way to make a decision is to base it off of something tangible; he says to ask for sam-

ples. "I like to have samples; I'm not the kind of person that can shop online. [I] want to see it, want to feel it," he says. "If it is ladder racking, get a couple feet of it; they should give it to you for free. Look at it and make sure it is the quality you are looking for and whether it is aesthetically pleasing, if that is a concern."

### Fire Detection

In an ideal data center, the possibility of a fire should be minimal. If airflow and electrical planning are done correctly, the risk of fire will be low. Nevertheless, disasters happen, and it is critical to build fire safety measures into place.

The first step is to plan for proper smoke detection systems. "From a fire standpoint, if you've got a raised floor environment, underfloor smoke detection is pretty much a necessity," Harris says. "In fact, in most municipalities it is going to be code."

These aren't going to be your typical residential detectors. Due to the unique environment, data centers should have smoke detectors that can sense the earliest stages of fire to prevent full-on flames and to prevent a situation where electronics-destroying water or foam retardants are needed.

One such product is System Sensor's Pinnacle Laser Smoke detector, which senses the first particles created through combustion. It is also designed with enough stability to minimize false alarms.

It may also be necessary to take things even farther with a detection system that samples the data center's air. According to experts at the National Fire Protection Association, air sampling detection devices should be considered in high airflow environments. One such example is Vision System's VESDA line of detector systems. Prices start at $1,800 and move upward depending on configuration.

### A Successful Plan

Successfully planning for electricity, cabling, and fire detection will help you build a data center with greater efficiency by supporting a higher density of equipment. It also will help foster a saner and safer environment by preventing the disorganization and danger of tangled cords. And it might help prevent heartache in the long run by keeping your risk of a fire-related disaster to a minimum. ▣



The APC Smart UPS VT has a power rating of 10 kVA, includes three battery modules, and has a maintenance bypass panel that can include power distribution features.

# Before You Build Your Data Center

With everyone on board, you can avoid potential disasters such as the one Mark Svenkeson, president of Hypertect, witnessed. "I just did some work for a local company here where facilities folks knew what they needed, and they got in there and rebuilt the room in accordance with their desires and our plans and designs, and then the IT folks came in and said, 'Wait a minute. There's only half the power density we want.' Now what do you do? It was a very difficult situation."

Plenty of input from different company sources can also help pinpoint a logical structure to the data center so that you end up with a space that fits both your technology requirements and budget. The equipment you choose will have a direct impact on your space requirements—sometimes in ways you wouldn't expect. For example, you might think you're saving space with blade servers, but the power and cooling infrastructure to support them might negate those savings, especially if you don't plan to spread those blades throughout your room.

Speaking of space, by borrowing a page from geographic science, you can effectively estimate the amount of space you'll need. Tim Dueck, managing principal for Reliable Resources, uses a population census of planned IT equipment to gauge the amount of necessary space and power. "We take the population census and re-optimize it in terms of square footage," he explains. "Then we take and understand the power requirement from that population census, and we can have an understanding of what the cooling requirement is and what space and infrastructure is needed to power and cool the data center."

## Location, Location, Location

Location of your data center, including the building itself and where the data center resides within the building, is also critical. Even if your data center boasts the best technology and infrastructure, a substandard location could spell doom.

"You want to be aware of what sort of hazards are in the areas," instructs Alger. "Are you in a spot that has seismic activity? Are you near an airport where you're going to have vibrations every time there's a plane coming in for a landing? Are you near electrical towers? You can put in seismic isolation platforms that deal with being in an earthquake zone. You can put in different things that can damp down vibration. You just need to be aware of what all those potential hazards are."

Your location planning should also take into account factors other than environmental issues. Alger says that your data center's proximity to local population areas can impact the type of workforce that's available, the ability for emergency response vehicles to get to your site in case of a crisis, and your decision to either showcase or hide your data center within the building.

Inside the building, experts recommend situating your data center in a single-story structure, if possible, to avoid potential plumbing problems from above floors and away from external walls to avoid effects from harsh temperatures.

## Be Bendable

Above all, plan to incorporate plenty of flexibility into your new data center because without that flexibility, you'll end up handcuffed to a limited environment in the near future. For example, Alger recommends using components that aren't necessarily propriety and that you can easily swap out for others if necessary. You should also aim to locate your data center away from labs or other areas that are difficult and expensive to move should the need arise to expand the data center. Svenkeson concurs: "Our primary concern with [data centers] is to make them as flexible as possible. The one thing about a data center that's extremely consistent is the constant rate of change." 🄿

## Breaking Down TCO

According to American Power Conversion, the total cost of ownership for a rack over its lifetime is about $100,000. Plenty of factors contribute to that cost, including power equipment, electricity, and others. Here's a breakdown of costs for a typical rack in a high-availability 2N data center.



Pie chart breakdown:
- Power equipment 36%
- Electricity 19%
- Service 17%
- Space 9%
- Improvements 8%
- Cooling equipment 8%
- Racks 3%

## Build Your Checklist

Determining the amount of space you'll need in your new data center can be a tricky endeavor, particularly when requirements vary vastly depending on the types and amount of equipment you plan to employ. Because it's easy to overlook components when mapping your space, it's crucial to constantly reference a checklist as you plan your room. According to Siemon, the following components appear in a typical data center.

- ✅ Computing and network infrastructure (cabling, fiber, and electronics)
- ✅ Network operations center or NOC communications and monitoring
- ✅ Power distribution, generation, and conditioning systems
- ✅ Environmental control and HVAC systems
- ✅ Fire detection and suppression systems
- ✅ Physical security and access control prevention, allowance, and logging
- ✅ Circuit breaker protection
- ✅ Proper lighting
- ✅ Minimum of 8-foot, 5-inch ceiling height
- ✅ Grounding
- ✅ Racks and cabinets for equipment
- ✅ Raised-access flooring and overhead cable trays
- ✅ Carrier circuits and equipment
- ✅ Telecommunications equipment
- ✅ Proper clearances around all equipment, termination panels, and racks

---

# Get The Most From Your Software Investment

points out that Europeans have developed the European Computer Driving Licence. Cardwell says, "Essentially it is a qualification made up from several small course modules that go through all of the office applications in greater depth. Although it takes some time, it truly pushes individuals to learn the ins and outs of these applications."

Microsoft also offers a certification called Microsoft Office Specialist that provides for much deeper and broader understanding of the features and functionality of the products within the Microsoft Office application suite. However, it is both cost- and resource-intensive for companies to try and send every employee through certification just to use the basic software on their computers.

## Mandated Training

To try to get the most productivity out of their software investment, companies could require users to go through training before starting work. But forcing employees to sit through a lecture or complete some Web-based course doesn't mean they learned anything. Harlan Carvey, author of "Windows Forensics and Incident Recovery," illustrates that. "Say an employee has to complete the training, or they lose their job. They take the training, suffer through the training (whichever form it takes), and get a check in the box. They go back to their cubicle having retained, what . . . 10% of what they heard?"

For users to learn, they have to want to learn. Providing incentives rather than mandates would get better results, Carvey says. "What if an employee who completed software training and demonstrated effective use of that training received a bonus, a gift certificate to dinner, etc.?"

The bottom line is that spending money on training without some form of review or follow-up to ensure that the users are actually learning something and gaining productivity and efficiency is just wasting more money on top of the money invested in the software.

## Books & Classes & Web Sites, Oh My!

Products such as Microsoft Word or Excel have more features and functionality than most users will ever even touch. Many other software applications are the same way. So it is apparent that users do, in fact, need some form of training to get the most out of these products. The question becomes, what kind of training?

Unfortunately, that is very difficult to answer. On the one hand, sending each user to instructor-led, lecture-style courses is cost-prohibitive for most companies. The training is a one-time thing that can't be reused. Some companies may send one person to training in a "train-the-trainer" fashion and have him come back and present a lecture to the rest of the employees.

Web or computer-based courses and books can be kept on hand and used repeatedly as new employees require training or even if they just need a refresher course. But aside from the economics of investing in training from the company's standpoint, there is also the issue that different people learn differently. One person may be able to learn everything by reading a book on her own, while another may need more hand-holding from an instructor.

After looking at who really needs to use the software, it is important to see to it that those users have the knowledge and skills to use it properly. Examine the available options and how to best maximize the return on investment for the company's training dollars and give the users some incentive to learn to use the features and functionality of their software, so you can regain some of that 90 cents being lost from every dollar. 🄿

## Five Rules To Live By

If you address these five key factors, only those who can use the software will have it, and those who have it will be more inclined to use it properly and get the maximum efficiency from it.

**Thrift.** Only purchase and install software applications for employees who will actually use it or have a business need for it.

**Awareness.** Make sure that the employees realize what programs are installed on their computers and what the purpose of each application is.

**Simplicity.** Make sure software is tested and assessed before you expect employees to use it. Ensure that there are no compatibility issues with existing hardware and software and that the product does what the employees need it to do.

**Confidence.** Give employees the training and resources they need to use the software. The more confident they are in their knowledge and ability to navigate the application, the more likely they are to use the more arcane features.

**Incentive.** Aside from the simple threat of losing their jobs, try to provide some incentive or give the employees a reason for putting in the extra effort to learn to use the software applications.

## Don't Buy More Than You Need

Before you train employees to properly use software, you should first verify whether they really need it. One potential source of wasted software or hardware is the wholesale distribution of it to all employees without regard for who really needs it or can make productive use of it. The one-size-fits-all approach to software distribution can lead to many wasted dollars.

Implementing an IT asset management system such as FindIT from PerfCap or K2 Key Auditor/Key Server from Sassafras Software can help you monitor which computers are actually using which software so that you can save money by eliminating or reallocating software licenses from machines that aren't using them.

Asset management programs offer the reverse benefit, as well. By tracking usage and maintaining license audits for the software being used on the network, you can monitor overall licensing needs and make sure the company is not breaking the law by using more copies of a given program than it has legally paid for.

# Flooring & Furniture Planning

## Revamping Your Data Center? It's Time To Think About Raised Floors, Racks & More

*by Elizabeth Millard*

• • •

FOR IT MANAGERS, the prospect of a new data center is rife with promise, since all those shiny new servers and temperature controls mean no more stop-gap measures. That kind of excitement should also be felt for what seems mundane but is vitally important—flooring and furniture.

In older centers, the flooring is often the same as in other parts of the building, and beyond some server racks, furniture can sometimes be what accounting threw out. But when a new center is constructed, it's time to focus on these two aspects for making the space as efficient, productive, and spiffy as possible.

### Floor Space

Perhaps one of the most compelling reasons to build a new center rather than spend budget money trying to make do with an older center is the flooring. During construction, you can install a raised floor that has plenty of space for electrical and network cables and can be air-conditioned to prevent shortages. Raised flooring also reduces static.

Determining what kind of flooring you need depends on the size of the space and the amount of equipment. In the case of subfloors, more space is always better than less, says Ryan Theil, vice president of Kidwell Communications and an RCDD (Registered Communications Distribution Designer).

"Trying to fit a rat's nest of cables under the floor and essentially filling up the space as soon as you have it isn't going to work," he notes.

"There's no room for scalability. Start with plenty of room in the subfloor, often more than you think you need."

An important consideration with the flooring is to put in hinged doors that can be walked on but opened easily to inspect the cabling if necessary. "A visual check can sometimes prevent a call to the electric company or a vendor," says Theil. "More than that, it's just a good idea to be able to see how everything is hooked together."

Raised floors should be at least 18 inches high—preferably 24 to 30 inches—with an adequate cooling system that routes air through the space and cycles it upward through perforations in the floor tiles.

### Certification Check

When doing subfloor planning, architects and engineering firms should be able to lend insight, but it's also wise to make sure there's at least one expert on the team that has specific experience in building data centers.

One way to be sure that the flooring will be designed properly is to find a professional with an RCDD certification, which is given by the Building Industry Consulting Service International, a nonprofit telecommunications association.

Those with an RCDD certification include architects, telco employees, data network engineers, telecommunications consultants, and electrical engineers. A registration renewal is required every three years.

"Like in other areas of technology, a certification shows that you have a certain level of specialized knowledge," says Theil. "When you're talking about getting your data center connected and putting all that wiring and cabling together in a way that makes sense, you're going to want someone who has that knowledge."

### Furniture Store

Once the flooring is done, it's time to think about what goes on top of it. Server racks and other equipment are a given, but also important is furniture, which can serve as a command center for the space.

Much like desks for a home office or corporate space, there's a range of options available at a number of pricing levels. A popular choice in the data center is metal furniture because the material is sturdy and doesn't create any warmth the way wood can.

For LAN environments, Systems Manufacturing's DuraMax is technical furniture designed to reduce clutter, allow scalability, and provide easy cable access. Its modular design allows for repositioning of shelves and work surfaces and even cross rails, legs, and uprights.

The company's Benchmark console center is much more stripped down than the DuraMax, with basically a single unit that can be customized according to how a data center manager wants the frame. The center is designed for process control, and because it's fashioned from heavy gauge steel, it will stay cool and rugged for years.

There are a host of other companies that provide versatile, customizable furniture, including Rackmount Solutions, Data Center Depot, and Winstead. These companies can also make design and configuration recommendations based on floor plan, rack placement, and workspace needs.

The main thing to keep in mind with furniture is that it should be small enough to be moved easily, Theil notes, but customized enough that it serves its purpose well. Choosing furniture that can be changed and rearranged, such as the DuraMax workstations, will allow for reconfiguration and expansion. Durability is also key. That way, you can bring your furniture to that next, bigger data center, and even the one after that. ▣

---

## Furniture Shopping

There are a number of companies that specialize in building furniture that can fit in the data center. Here's a sampling:

- **All Storage Systems**
  Products: LAN furniture, rackmount cabinets, security cages, wire mesh lockers, portable server racks
  **www.allstoragesystems.com**

- **DAMAC**
  Products: cabinets, racks, cable management systems, shelving, modular network furniture
  **www.damac.com**

- **Desks4Computers**
  Products: adjustable computer desks, laptop stands, mobile file cabinets, network server stations
  **www.desks4computers.com**

- **Information Support Concepts**
  Products: network and relay racks, training tables, LAN furniture, power strips, computer chairs
  **www.iscdfw.com**

- **Rack Ideas**
  Products: server racks, work centers, printer stands, wire shelving
  **www.rackideas.com**

---

To see *Processor* Showcase advertisements for products in this category, look in the Solution Index on page 2 and find the Flooring and Racks & Furniture ads under Physical Infrastructure.

# Beefing Up Security & Backup

## Data Center Construction Or Revamp Offers Perfect Time For Changes

*by David Garrett*

• • •

NO DOUBT YOU DEAL with security and backup all week long, but when you're building a new data center, you need to focus on them like a laser.

First, of course, is security. While it's true that crypto, malware defense, and digital forensics take most of the headlines in this field, plain old access control is still your first line of defense in your data center. And when you're building from the ground up, access control should be the first thing you consider.

Building from scratch gives you the chance to set up the system you've always wanted. Unlike intrusion detection and prevention systems, which can be changed nearly at whim, physical access control often involves some construction. And it's something that's rarely under your control, being the domain of a physical plan team that may or may not listen to you, much to your chagrin.
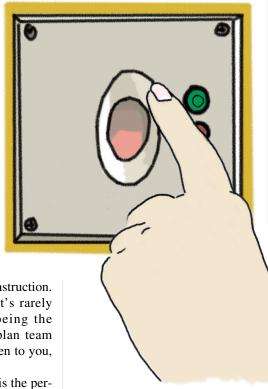
But new construction is the perfect chance for a powwow, and it may even be the chance to build things exactly to your specs.

### The Options

On the high end you can pursue such fancies as facial recognition software, iris scanning, and well-known biometrics. Chief among these are fingerprint scanners, such as the BIOAXS 9700 from NextgenID Systems (www.nextgenid.com). The 9700 lets you restrict access to as few as a dozen users or as many as 30,000. Users place a finger on a touchpad that scans their print and grants or denies them access. The system can stand alone or integrate with other systems, such as lock and alarm systems, based on your needs.

Competing with NextgenID is Kaba Benzing, which makes a number of access-control systems for data centers and other secure rooms (www.kaba-benzing.com). The Bedanet 91 20 Fingerprint Terminal functions much like the 9700 from NextgenID, using a fingerprint as a unique, immutable ID that can't be forgotten, lost, or stolen, unlike a PIN or an access code.

But if fingerprints and face-scanning seem to be too much like Big Brother, you can always go with simpler badge and key-fob systems, such as the E3 Series by Security Door Controls (www.sdcsecurity.com). The E3 system lets you control up to 3,000 users and 64 doors with a transaction log that can store up to 50,000 entries.

If you run a low-security facility, you can even go with simple locksets. These are keypads you place on a single door; users simply enter a code to enter a room. The E72 Series by Security Door Controls lets you program locks from each keypad or use a PC to centralize the system. And even basic options such as this can accommodate user groups, holidays, and temporary users and give you a basic audit trail if the need ever arises.

### Backup: Better Safe Than Sorry

Building a new data center is also as good a time as any to assess your backup plan—providing, of course, you have one. If you're one of those few souls who doesn't, now is the time to change that.

If nothing else, you'll need a good backup and business continuity plan to assist with problems that can occur when you move from your old data center to your new one. (Moving servers, storage-area networks, and other equipment always brings a risk of more downtime than planned.) What's more, you'll need the plan once you're set up in your new facility, since a new data center, by definition, is untested. There's a better chance for things to go wrong, and that makes your backup plans all the more vital.

New backup strategies, such as CDP (continuous data protection), could be useful to you. CDP systems make a record of every change to your data, so they can return your entire system, a single piece of software, a database, or even a single file to a prior point in time. If you're running Windows XP, you're familiar with a scaled-down CDP system already: Microsoft's well-known System Restore, which takes snapshots of your system and lets you restore your OS to an exact point in time.

One new CDP product making waves is StorActive's LiveServ for Exchange (www.storactive.com), which lets users recover Exchange up to a point of failure, even if its logs were corrupted or destroyed. Even better, you can fine-tune what experts call the granularity of your backup, choosing a restore that runs from a single message, a mailbox, a folder, or even a complete data store. LiveServ costs $1,995 per Exchange agent and 25 users.

TimeSpring's TimeData is a CDP system that safeguards transactional data in an order database letting you restore to a point in time only moments before a failure and, according to TimeSpring, within only minutes after it (www.timespring.com). This not only removes backup windows from the equation but makes backup and vaulting simpler. TimeData starts at $1,300 per file server.

But no matter what type of backup you choose, be sure to plan its rollout down to the last detail. The time and expense of a new data center demand nothing less—and in the end, safe is always better than sorry. ▣

---

---

# Data Center Power Solutions

**PDI**
creating the perfect wave

Power Distribution, Inc. has been a leader in the power quality industry since 1979. As an innovator in technology solutions to power quality issues with several patented technologies, PDI has continually advanced its products in response to changing customer needs.

Whether it's **power distribution, regulation, harmonic cancellation, switching** or **systems monitoring,** PDI has you covered!
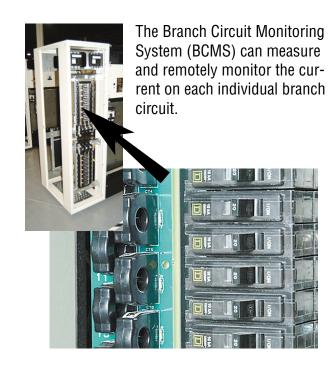
*Remote Power Panel (RPP)*

The Powerpak Remote Power Panel (RPP) is a freestanding distribution system designed to increase the usable kVA of your Power Distribution Units (PDUs). As your data center evolves from a few high powered devices to many low powered devices, your system becomes limited by the number of distribution points on your PDUs. PDI's RPP gives you the added pole space your system needs.

Custom configured in a freestanding enclosure, the RPP gives you the added flexibility and room for expansion by placing your power connection points closer to your equipment loads. Units are rated for 208v applications and each can provide up to 168 additional single phase circuits. Optional equipment now includes the **Branch Circuit Monitoring System (BCMS)**.

**800-225-4838**
**www.Processor.com/PDI**

The Branch Circuit Monitoring System (BCMS) can measure and remotely monitor the current on each individual branch circuit.

The BCMS provides the Network Manager the ability to monitor the electrical current usage either as part of an on site system through Mod Bus RTU protocol or it can be remotely accessed via the Internet. Each BCMS module monitors and provides data for up to 84 branch breakers. In addition, the BCMS is scalable: distribution panels can be wired in a "daisy chain" or "star" network and connected to a central monitoring device.

---

## Power Protection
### www.Processor.com/BayTech2

RS232 Port    Transfer Switch

4 receptacles per side

**8 Receptacle Power Control / Monitoring w/Trans Switch**
• Current, Voltage, Power, and Temp Monitoring
• Automatic Transfer Switch
• RS232 or Network Interface 120/208VAC 10, 20, 30A Models
• Turn On, Off, or Reboot any or All Receptacles

**HURRICANE KATRINA DID NOT WIPE US OUT!**
**WE'RE FINE - GIVE US A CALL!**

**BayTech®**

5239 Avenue A
Long Beach, MS 39560
Phone: (800) 523-2702
Fax: (228) 563-7335

---

## Power Protection
### www.Processor.com/ServerTechnology4

• Provide redundant power to single-power supply servers
• Auto-switches to a secondary power source if the primary becomes unavailable
• Universal voltage: 120V or 208-240V
• Primary select switch to designate the primary & secondary power feeds
• LED lights indicate which power source is in use

**Server Technology, Inc.**

1040 Sandhill Road
Reno, NV 89511
Phone: (775) 284-2000
Fax: (775) 284-2065

---

## Power Protection
### www.Processor.com/Pulizzi7

**T 2235 Series**
• 0U or 1U mounted
• Dual input, auto-switching between sources (primary and secondary)
• Transfer time of 30 ms max
• Brown-out monitoring and "Out of Phase" transfer capability
• IEC and North American versions available

**Z-LINE**
**PULIZZI ENGINEERING, INC.**

3200 S Susan Street                     Santa Ana, CA 92704-6839
Phone: (877) PULIZZI (785-4994)              Fax: (605) 334-4999

---

## Power Protection
### www.Processor.com/PDI2

**QwikSwitch - Rack / Wall Mounted Static Switch**
• Single phase static switch from 25-300 amps
• Coordinated break before-make operation
• 6 ms sense and transfer keeps server loads intact
• Solid state logic and switching components
• Rack or enclosure mounted
• Optional manual bypass for upstream maintenance

**PDI**
creating the perfect wave

4200 Oakley's Court
Richmond, VA 23223
Toll Free: (800) 225-4838
Phone: (804) 737-9880

---

## Power Protection
### www.Processor.com/Maruson2

**2U Rack/Tower 1500VA - 3000VA**
For Telecommunication, Networking and Advanced Servers
• Line Interactive design, True Sine-Wave output
• 6 Battery Backup outlets and 2 Surge protection outlets
• USB or RS232 communication port
• EPO (Emergency Power Off) port
• SNMP slot ready for web-based remote management

**MARUSON**
**TECHNOLOGY**

1043 Segovia Circle
Placentia, CA 92870
Phone: (714) 630-0228
Fax: (714) 630-0273

---

## Power Protection
### www.Processor.com/APC2

**APC's** new **Smart-UPS SC line** provides users with "best price" protection & management for entry-level servers, voice & data networks. The Smart-UPS line of uninterruptible power supplies includes 1U & 2U rack-mountable models as well as dedicated tower models ranging in capacity from 250VA to 1500VA. Comes with a two-year warranty and lifetime $150,000 equipment protection policy.

**APC®**
Legendary Reliability®

132 Fairgrounds Road
West Kingston, RI 02892
Phone: (888) 289-2722 x 6762
Fax: (401) 788-2797

# Product ✎ Releases

## PHYSICAL

### HVAC

■ **Stulz-ATS** is targeting its new coolant modulating unit at businesses that want to use building infrastructure to handle heat loads. The Stulz-ATS CMU-33-D-PS Coolant Modulating Unit uses the building's chilled water and can switch building water from 45 degrees Fahrenheit to 54 F by the time it reaches the CyberChill rack. The two units also reduce water flow to the data center. The device includes multistage centrifugal pumps, automatic air venting, a water detection system, three-way proportional control valve, and optional BMS.

## COMMUNICATIONS

### Security

■ **Arxceo** has introduced the Ally ip100, a compact antireconnaissance NSA that includes intrusion prevention, wireless security, and other security features. The Ally ip100 can protect against zero day attacks, DNS cache poisoning, network reconnaissance, DoS attacks, and other threats. The Ally ip100 masks the network's IP address, available services, and other information. It also hides itself by keeping any IP address or MAC address hidden. It doesn't increment hop counts or decrement TTL counters, so it can remain undetected by most attackers. The Ally ip100 can handle up to 100Mb of throughput. The Ally ip100 operates on embedded Linux 2.6.11, has a Web-based interface, and presents pop-up alerts through SNMP and an Arxceo Windows-based client application. The Ally ip100 appliance will be available Dec. 1 with an MSRP of $895.

· · · · ·

■ **Blue Coat Systems** is targeting its new ProxySG platform functionality at users who need to monitor and control communication between internal employees and external Internet applications via SSL. Blue Coat cites travel booking, expense management, and customer relationship management sites as external applications that use SSL and are hidden from the view of the administrator. According to Blue Coat, the package's accelerator card includes special object pipelining and caching technology that lets the monitoring software boost network performance. The software will be available in January for $450 to $11,995, which includes the SSL accelerator card and the software license.

· · · · ·

■ The V.I.P. from **Datanode** is a new unified threat management appliance for small, medium-sized, or large business networks. The V.I.P., installed and maintained by Datanode as user preference dictates, focuses on disaster prevention. For a monthly $500 fee, the V.I.P. not only proactively protects networks but also provides reports at user-selected intervals for regulatory compliance and monitoring purposes.

· · · · ·

■ **Maxxan** added a high-speed data-at-rest encryption support to its innovative MXV Series of Secure Storage Application Platforms. With the ability to scale from 16 to 256 ports, the product is targeted at enterprise users looking to encrypt data across disk or tape SANs. Maxxan's SSAP is available in a variety of models, scaling from a 2U SX (up to 16 ports) to a 5U MXV250 (up to 64 ports), and to a 20U MXV500 (up to 256 ports).

· · · · ·

■ **Memory Experts** introduced new versions of its Stealth MXP and Outbacker MXP secure storage devices. Stealth MXP is a PSTS device for WS-Trust, capable of issuing SAML tokens for an unlimited number of bindings to target services. Stealth MXP can create random number generation, key generation (internal or external entropy), symmetric encryption/decryption, asymmetric signing, verification, and encrypt/decrypt (RSA) OTP. Outbacker MXP is a state-of-the-art PSTS (Portable Security Token Service) for WS-Trust, providing up to 36 PSTS Credential Sets and capable of issuing SAML tokens for an unlimited number of bindings to target services. Outbacker MXP also provides seamless encryption (AES 256) of hard disk storage of 20, 40, and 60GB and supports the enrollment of five users and six fingerprints and makes use of a patent pending user-mode communication protocol providing true zero footprint mode—no software installation and no administrator rights are required on the host PC.

### Storage Networking

■ **NetEx** today announced a new remote replication and migration configuration available for projects with short completion times via the combination of the company's HyperIP DRO (Data Replication Optimizer) and SANRAD's Global Disaster Recovery product for IP-SANs. The joint offering is designed to increase bandwidth utilization by up to 100% over non-Hyper Powered IP products, according to test results produced by the SANRAD Application Solution

# TippingPoint Defends Against Phishing Attacks

## Network-Based Intrusion Protection System Increases Your Security

*by Daniel Dern*

· · ·

**TIPPINGPOINT HAS** recently added antiphishing features to its Intrusion Prevention System appliance, which already protects against viruses, worms, Trojans, DoS attacks, spyware, and VoIP attacks. According to Tod Beardsley, lead counterfraud engineer at TippingPoint, "The TippingPoint IPS usually sits on the network gateway, on the perimeter, but we're now also seeing people stick them in the core, next to the router, so it gets to inspect all traffic."

TippingPoint starts by analyzing the elements of a phishing campaign. "Typically phishers start out by compromising a Web server somewhere and upload their fake Web pages and scripts, before the faked emails go out," says Beardsley. "Our IPS protects Web servers from being compromised and protects outbound traffic, so outbound attacks are stopped. Because we're an inline device, we can inspect email for 'markers' of phishing activity, like header flaws or how HTML links are constructed."

TippingPoint IPS' antiphishing features are a defense-in-depth solution and use a combination of vulnerability, behavior-based, and pattern-matching protection.

Beardsley says, "If a user gets the message from IM or a message board and clicks on it, we can look at the Web site as it's being retrieved, before the user computer renders it. This prevents common phishing tricks like rewriting the location bar. And we have a set of policy filters that block the transmission in the clear of credit card and other personal information."

David Wartell, senior network engineer at Web hosting provider Everyone's Internet, says his company is using the TippingPoint IPS to protect its 20,000+ customer-managed servers. "Since deploying TippingPoint, we've seen a significant drop in customer servers that have been exploited. . . . TippingPoint lets us block or filter out phishing traffic before it ever gets to customer servers, without our needing to manage to patch the servers. In any given hour, TippingPoint is blocking thousands, even tens of thousands, of phishing and other attacks to our customer servers."

Although antivirus, spam, and spyware filtering companies are beginning to add phishing detection to their features, other antiphishing solutions focus on detection or on reactively alerting the company but not preventively blocking the site. However, notes Beardsley, "Many phishing attacks have been designed to evade antispam vendors."

"There are a lot of antispam products that sit at the network gateway, like IronPort, Barracuda, [and] Mirapoint, all adding antiphishing protection. The key to protection these days is defense in depth," says Jon Oltsik, senior analyst at the Enterprise Strategy Group. "And don't forget to educate your users. Technology is never a substitute for knowledge."

For existing customers the antiphishing features upgrades are included in the company's free regular updates. For new customers they are included in the current product versions. Ⓟ

---

**SNAPSHOT**

**TippingPoint Intrusion Prevention System**

Starts at $4,995

New antiphishing features keep servers from being compromised and block inbound and outbound phishing attempts

**www.Processor.com/TippingPoint**

---

## Product 📖 Releases

*Continued from Page 16*

integration Lab. NetEx also introduced HyperSHIELD, a replication "Data in Motion" system for use with existing IP networks that moves and encrypts data over the WAN at up to OC12 speeds. The company says the product is a secure migration optimizer dedicated to accelerating and protecting replication applications from EMC, NetApp, Symantec, Oracle, and others.

· · · · ·

■ **Sanrad** is targeting its new switch at users who want to create an iSCSI SAN pool from existing iSCSI storage arrays. The iSCSI SAN-V-Switch supports all IETF-compliant iSCSI storage devices. The SAN-V-Switch also supports disaster recovery services and local and long distance data replication.

### Telephony

■ **Siemens** has announced its HiPath 2000 will be targeted at SMEs interested in IP communication with low overhead. HiPath 2000 includes Siemens' HiPath Com-Scendo, which adds features such as conference calling, call holding with on-hold music, and caller display. The package centers on Linux-based software and optimized hardware. An integrated gatekeeper manages voice communication, and the HiPath 2000's built-in firewall delivers secure Internet access. HiPath 2000 features connections for analog terminals such as fax machines and conventional phones without requiring additional adapters. With

integrated voicemail, users can create up to 24 voicemail boxes for voice messages.

### Wireless

■ **D-Link** announced its new Meshed Wireless Local Area Network products. The new access points can handle both 802.11a and 802.11g and include a variety of infrastructure modes including Access Point, WDS (Wireless Distribution System), WDS with Access Point, and Auto Topology. The new MWLAN products include support for PoE and include two high-gain antennas along with load balancing and power adjustment features. On the security side, the new MWLAN access points will support Pre-Shared Key, WPA, and WPA2, as well as MAC address filtering. Administrative access to the access points can come through either SNMP, telnet, or SSH.

### END NODES

### Components

■ **Zonet** announced the availability of its new USB dongles. These devices were designed for Bluetooth version 2.0. There are two models, the ZUB6201C, a class two device with a 10-meter range, and the ZUB6211C, which is a class one offering with a 100-meter range in free space. Other features of these dongles include an easy setup and blue LEDs to display your current status. In conjunction with this announcement, Zonet said that due to its popularity, Zonet will continue to distribute

and support its Bluetooth Dongle version 1.1; it will not be phased out.

### Mobile

■ **Fujitsu** announced the new ultra-portable LifeBook P7120 notebook that's designed for professionals on the go. This laptop has a black exterior and a 10.6-inch Crystal View XGA TFT LED widescreen display. As the successor to the LifeBook P7010 notebook, the LifeBook P7120 merges a lightweight form factor with performance, long battery life, and security. The LifeBook P7120 weighs just more than 3 pounds and contains a built-in, removable media bay for an optical drive or extra battery for up to 11 hours of computing time. The Fujitsu ECO button also can extend battery life by reducing power consumption for components. An Intel Pentium M Processor Ultra Low Voltage 753 running at 1.2GHz powers this laptop, in tandem with the Intel 915GMS chipset. To prevent unauthorized data access, the LifeBook P7120 comes standard with the TPM (Trusted Platform Module), a combination of an integrated security chip with data encryption software and built-in biometric fingerprint swipe sensors. For connectivity, the LifeBook P7120 offers Wireless LAN, a modem, a 10/100 Ethernet, and Bluetooth wireless.

### Server Appliance

■ **Liquid Machines** has released its BlackBerry Gateway for RMS (Rights Management Service), which extends

Windows RMS for Windows Server 2003 to BlackBerrys. With BlackBerry Gateway for RMS, BlackBerry users can send and receive RMS-protected messages via their wireless devices. By adding these server-side policy enforcement abilities to automatically apply message protection at the email gateway, BlackBerry Gateway for RMS ensures BlackBerry handhelds comply with corporate-defined email access and usage policies. Users can apply the full range of RMS policies or choose to automatically enforce RMS policies at the email gateway.

### Storage

■ **COPAN System's** new Revolution 220A is the latest storage unit in the company's Revolution 200 series. The 220A features COPAN System's MAID (Massive Array Of Idle Disks) to manage and archive data in a safe, secure manner that remains easily accessible (at the file level). The new system includes COPAN's Millennia Archive software, which allows administrators to automate data migration. Although the Revolution 220A is available to select companies for evaluation, it won't be readily available until the first quarter of next year.

· · · · ·

■ **Iomega** announced the StorCenter Network Hard Drives, designed for home and small-business networks. The new drives are ideal as audio and video media servers and feature UPnP (Universal Plug and Play) technology. Other features

# Thin Client Computing Is In

## Fast & Sleek Performance From The Wyse S10 Workstation

*by Joe Lazzaro*

· · ·

**THIN CLIENT WORKSTATIONS,** computers that lack hard drives and rely on the server to do most of the work, help companies keep information technology expenditures under control while at the same time increasing security. They enable organizations to cut costs by employing less powerful and hence less expensive workstations. Thin client environments also permit companies to increase security levels, locking out entry points to the network, such as floppy drives, that can introduce viruses, spyware, and other potentially dangerous code to the network. Other benefits of thin client workstations are that there are no hard drives to restore should the unthinkable

take place and fewer components result in less expensive and more reliable workstations for the enterprise.

Wyse Technology recently announced the rollout of its latest thin client product, the Wyse S10 thin client workstation, which is the successor to the Wyse1125 SE. The Wyse S10 runs on the Citrix Access Suite, featuring the Wyse Thin OS 5.0, the latest version of the operating system formerly known as Wyse Blazer. The Wyse S10 provides for plug-and-play installation and configuration, multiple sessions with seamless windows, client imaging from a standard FTP server, and stateless operation.

The Wyse S10 thin client workstation ships with a standard keyboard, a scroll



**SNAPSHOT**

**Wyse S10 thin client workstation**

Bundled with the recently released Wyse Thin OS 5.0 operating system, the S10 features plug-and-play operation, providing client imaging via a standard FTP server

**www.Processor.com/Wyse**

wheel mouse, DC power adapter for AC power outlets, and a quick start guide. It's powered by a Geode microprocessor from Advanced Micro Devices. The workstation features a small footprint, measuring only 1.38 x 6.94 x 4.75 inches (HxWxD).

According to the company, the major features of the Wyse S10 that help it stand out from the competition include its speed, ease of management, and low cost. Other differentiating features are increased security because the software does not have a publicly exposed API. The unit also features appliance-like installation, a short initial bootup sequence, and responsive and latency-free operation with Citrix presentation server and Windows Terminal Services, without requiring high-performance hardware. Competition to the Wyse S10 thin client comes from Neoware and HP. The Wyse S10 thin client workstation is expected to start shipping next month. ⌷

# Product Releases

include password-protected user accounts and assignable user-directory quotas. Each drive ships with Iomega Automatic Backup Pro software. The 160GB Stor-Center is available for $199.99, and the 250GB StorCenter drive is available for $289.99.

. . . . .

■ **Network Appliance** and **IBM** jointly launched the IBM System Storage N5000, which is a series of networked storage systems designed for small data centers and remote branch offices. Customers can use the N5000 family for their storage management, disaster recovery, or disk-to-disk-based backup needs. The N5200 and the N5500 will be available Dec. 9, starting at a list price of $60,000 and $85,000, respectively. Both models will be available in single and dual storage controller versions.

. . . . .

■ **RAID** unveiled the Falcon II, 24-bay, 4U, FC to SATA-II storage system. Equipped with either U320 or dual FC2 controllers, the Falcon II is backward-compatible with SATA-I drives. RAID added hot-swappable power supplies and cooling fan modules to make the Falcon II safer; the following other components are hot-replaceable: host I/O modules, Li-Ion battery, and RAID-protected hard drives. RAID promises end-to-end performance of up to 460MBps for sequential writes and up to 770MBps for sequential reads in a RAID 5 setup. The Falcon II supports the following RAID configurations: 0, 1, 0+1, 3, 5, 10, 30, 50, and JBOD.

## Workstation

■ **HP** announced the bc1500 blade PC, which is based on the HP BladeSystem technology that can help cap security risks such as theft, viruses, and data loss. The bc1500 blade PC also maintains the familiar desktop experience for users. Features include an ultra-low power AMD Athlon 64 processor, which helps the bc1500 blade PC consume a fraction of the power of a traditional desktop PC. The new offering is available in the United States and Australia with prices varying by region.

### SOFTWARE

## Application & Web Development

■ **Sun Microsystems'** Java Studio Enterprise 8 will be completely supported on Sun's Solaris 10 OS and gives developers the flexibility to create, test, and deploy applications through preconfigured tools and runtime infrastructure. Java Studio Enterprise 8 uses NetBeans 4.1 IDE to let developers produce enterprise applications for Java Platform, Enterprise Edition 1.4 and a free add-on module offers users the ability to write, test, and debug mobile and wireless programs for Java Platform, Micro Edition. Java Studio Enterprise 8, along with Sun Java Studio Creator, will be available to all SDN (Sun Develeoper Network) registered developers at no cost.

## Business Productivity

■ **Business Objects** Planning for Retail is a new suite of four applications that can help retailers predict future financial performance and facilitate collaboration among workers. The suite allows disparate business units to standardize budgeting, payroll planning, and expense and sales management yet still enjoy the flexibility of customization for unique processes.

. . . . .

■ **Tigerpaw Software** announced the release of Tigerpaw CRM+. Some of the larger improvements are a better user interface, project management features, subcontractor support, and enhanced business analytics highlighted by a new dashboard and expanded customization tools. Tigerpaw CRM+ supports a larger screen size, provides a new explorer bar for more efficient system navigation, supports high-color icons, and utilizes passive task and workflow notifications. Other new features include a new group calendar, international date support, progressive billing functionality, payment tracking, enhanced security model, improved RMA tracking, unlimited pricing levels, and unlimited user-defined custom fields throughout the application.

## Database & Data Mining

■ **Sybase's iAnywhere** released the Advantage Database Server 8.0, which is a full-featured, client/server data management system designed for software developers. The latest version improves the Advantage Replication and Advantage Online Backup features and adds SQL scripting, replication support, and the capability to perform online backups. A five-user license is available for $645, but customers can get an unlimited user license for $7,870.

. . . . .

■ **IBM** and **Nstein Technologies** introduced the Public Image Monitoring Solution, which is designed to help businesses determine the success of product introductions

# Maximize Your Application Performance

## Citrix Switch Provides End-To-End Security & Continuous Availability

*by Cynthia Lazzaro*

• • •

**WEB-BASED APPLICATION** sharing has been wrought with pitfalls such as poor performance, even poorer security, and often a large price tag. Many application integrators would have to choose between performance and security, often coming up with solutions that weren't optimal for either. However, with the release of Citrix's NetScaler application delivery product line, all that has changed.

The latest addition to Citrix's NetScaler product line is the NetScaler Application Switch Standard Edition. Designed for small to midsized enterprises, the NetScaler Application Switch SE is a network appliance that is deployed in front of application servers and provides layer 4-7 traffic management and application acceleration.

The switch is built on Citrix's Request Switching architecture, which is the industry's only wire-speed technology and handles every application request based on an application-aware policy engine, AppExpert. AppExpert can be configured with powerful user-defined policies and lets administrators build comprehensive application request handling policies for individual requests, regardless of the number or type of connections.

These individualized policies offload computer intensive processes from application servers. For example, by encrypting and decrypting SSL packets and providing HTTP data compression, the application servers can support more resources and more users more efficiently.

The NetScaler Application Switch also can monitor the health

---

**SNAPSHOT**

**Citrix NetScaler Application Switch SE**

Single appliance: $17,499; high availability pair: $29,995

Helps small to midsized enterprises increase performance and security for Web-based applications

**www.Processor.com/Citrix**

---

of application resources and direct traffic to available servers to improve business continuity through its Network Load Balancing capability. Other capabilities include data caching, compression, and SSL VPN. The NetScaler Standard Edition also lets clients choose between a Web-based GUI or a command line interface for monitoring and managing the device and applications.

The NetScaler Application Switch SE also has the ability to defend against threats such as DoS attacks, buffer overflow attempts, and worm-based application corruption. The NetScaler appliance can also block application attacks with no performance impact to legitimate application traffic, something that Citrix claims its competitors cannot yet do.

Competitors include Redline Networks' T|X Accelerator, Kemp Technologies' LoadMaster, and F5's Big-IP. Redline's T|X Accelerator is a dedicated network appliance that speeds Web application response times, conserves server resources, and features quick deployment with minimal configuration and administration. Kemp's LoadMaster product line offers Layer 7 application load-balancing, SSL acceleration, and content switching but doesn't offer the same management or policy capabilities as NetScaler.

F5's Big-IP appliance has a suite of application acceleration and optimization features that include HTTP compression, the ability to avoid unavailable servers, SSL acceleration, extended application health checking, and efficient traffic/application management via F5's traffic management OS architecture. Big-IP optimizes network performance through intelligent Layer 7 management and uses the Universal Inspection Engine, iRules, and the Dynamic Security Control Architecture to enforce, secure, and accelerate the delivery of applications and Web services.

---

# Product ⚡ Releases

and marketing campaigns. The new offering uses text analytics and semantic search technology to cull potentially helpful information from a variety of Web resources, including blogs, news feeds, consumer review sites, newsgroups, and articles. The Public Image Monitoring Solution is based on IBM's WebSphere Information Integrator OmniFind Edition, which is slated to be available toward the end of this year.

### Mobility

■ **Circuit Systems** released Fone Folio, a Windows application that lets users view Windows files on a Java- or WAP-enabled cell phone. To use Fone Folio, a user must upload a Word, Excel, or PowerPoint file to the Circuit Systems' secure file server. A few seconds later, the file is available for viewing on any compatible cell phone. To ensure privacy and security, all data is encrypted on the Circuit Systems' file server. For fast access on your cell phone, all data is compressed, and Fone Folio removes any excess information from your Microsoft Office or Corel documents before delivering them to your cell phone. Fone Folio is compatible with Windows 98SE/Me/2000/XP systems and costs $5.99 per month. In addition to support for all versions of Microsoft Word, Excel, and PowerPoint since version 97, and Corel WordPerfect, Quattro Pro, and Presentations version 10 or newer, Fone Folio also supports generic text, comma delimited files, and 12 popular image file formats.

### Network & Systems Management

■ **AdventNet** introduced the Free Edition of NetFlow Analyzer, the company's bandwidth-monitoring software. NetFlow Analyzer 4.0.2 performs reports of autonomous systems and supports NetFlow 7. NetFlow Analyzer is compatible with Cisco routers and switches.

· · · · ·

■ **Gilles Vollant** released WinImage 8.0, the newest version of the popular tool for creating, reading, and editing a disk image. New features in version 8.0 include expanded support for Virtual Hard Disk images, which are used by Microsoft Virtual PC and Virtual Server. In addition, the program supports VHD images in both the read-only and read/write modes. Version 8.0 also adds support for NTFS and Linux EXT2FS/EXT3FS partitions in images in the read-only mode. WinImage 8.0 is compatible with Win32/64-bit platforms.

· · · · ·

■ **XOsoft** announced InMotion, a new product that automates upgrades, maintenance, and migration tasks for Microsoft Exchange Server. InMotion is designed to reduce system complexity, increase productivity, and promote proactive management of Exchange, thereby lowering the costs and error-rates associated with planned downtime turning into unplanned downtime.

### Security

■ **Atempo** announced Time Navigator SCM (Security and Compliance Manager), which provides security measures for both in-transit and at-rest data. Time Navigator SCM incorporates tools geared specifically toward eliminating eavesdropping, tampering, and impersonation of data. Time Navigator SCM also incorporates digital signatures, hierarchical key management, encryption, algorithms, and reporting. Atempo has also included compliance templates for Sarbanes-Oxley, SEC-17a, HIPAA, and other regulations.

· · · · ·

■ The new **McAfee** Policy Enforcer software is now available in beta, with general availability planned for early next year. It blocks noncompliant systems from connecting to the network, whether they're managed or unmanaged, internal or external. Policy Enforcer integrates with McAfee ePolicy Orchestrator 3.6 and supports Cisco Network Admission Control, Microsoft Network Access Protection, and Trusted Network Connect enforcement frameworks.

· · · · ·

■ **Symantec** announced that several of its security and availability applications support Microsoft's SQL Server 2005. The company's Veritas i3 for SQL Server, for instance, offers performance management for .Net applications and Web services running on SQL Server 2005 databases. Meanwhile, Symantec's Veritas NetBackup, Backup Exec, and LiveState Recovery offer backup protection for SQL Server 2005.

· · · · ·

■ **Tablus** released Tablus Content Sentinel, software designed to find and fix uncontrolled data in networks, laptops, desktops, and other computing devices. It scans these devices for data violations and quarantines or deletes corresponding files. This software also secures confidential information that has been scattered across a network. It features an Information-at-Risk Snapshot that displays a company's risk as a whole or by group or department and then creates a list of actions sorted by priority. It also has centralized violation reporting that uses criteria regulated by PCI Data Security Standard, HIPAA, and other security organizations. Tablus also introduced the Content Alarm 3.0, which is designed to provide a comprehensive view of a network and individual desktops in that network in a single reporting structure. It finds "hot spots" in a network where information is most vulnerable. Content Alarm

# Monitoring With An Out-Of-The-Box Solution

## Verifichi ITVerify Simplifies Tasks Associated With Managing Networks

*by Julie Sartain*

· · ·

**VERIFICHI PRESIDENT** Dave Nocera says that recent research in the computer industry reveals 80% of all unplanned downtime is attributed to people and process issues, while only 20% is a result of technology failures. Nocera compared information technology to cameras, automobiles, and the utility companies: The easier and more user-friendly these systems become, the more complex they get behind the scenes. And the more complex a system becomes, the more time and personnel are needed to manage and maintain it.

Enter Verifichi ITVerify 2.6.2, a software solution from Innovativ Systems Design that simplifies tasks associated with managing networks and system infrastructures. The idea is to automate the manual tasks and processes and then lock those processes in place and at the same time have a method for tracking each process in each stage—that is, before, during, and after the change occurred.

ITVerify monitors the environment with "out-of-the-box" solutions, eliminating the need for system administrators to continually write new scripts and programs to perform these functions. It supports standardized configuration policies such as configuration levels, transaction throughput, regulated settings, and tunable parameters and then monitors these standards across a single location or an entire enterprise.

Changes from software and hardware additions, patches, and/or upgrades, as well as user changes and errors are logged, and user requested notifications are distributed to the appropriate individuals. Before and after information is displayed so system administrators can survey and manage these changes.

The data for each configuration change is saved for as long as needed, which lets administrators view a history of all changes to any machine, system, network, or enterprise. All the collected data is stored in a centralized database on a specified manager node for easy access through a reporting program such as Excel and/or Crystal Reports. This automated process virtually eliminates the old "manual" documentation trail that administrators had to create and maintain.

The manager node runs on a Solaris 9 machine with agents that can communicate with Sun OS, HP-UX, AIX, Linux, and Windows servers. The MySQL database software is installed with each program.

Competition includes BigFix, Tripwire, and Tivoli Configuration Manager. Tripwire is an audit-only tool with an extremely file-centric focus. It's aimed primarily at the security and compliance of files and file systems and does not collect any hardware information, plus its agentless deployment is a small subset of what its agent can do.

Tivoli Configuration Manager is based on the Tivoli framework, which is being phased out of all Tivoli offerings. Tivoli's implementation is agent only and the deployment of this product requires a large professional services effort for up to six months. It doesn't offer the ability to group nodes for comparison or analysis and requires add-on products to achieve solid reporting. ⚡

### SNAPSHOT

**Verifichi ITVerify 2.6.2**

Initial investment around $100,000; per-node charge of about $500 for each monitored node

Automated system eliminates all your manual tracking processes

**www.Processor.com/Verifichi**

# Product 🖱 Releases

3.0 features an Executive Dashboard tool that lets users customize report templates and schedule automatic delivery of executive reports. It also provides comprehensive policy violation management. Users can filter accessibility to their policy and ensure that only the people intended to see reports will be able to view them.

• • • • •

■ **Trend Micro** announced a Worry-Free Security initiative aimed at helping smaller businesses with little or no IT support to overcome the challenge of securing their networks. The first phase of this initiative, which over time will feature additional products and services designed for small and medium-sized businesses, includes the latest versions of Trend Micro's antivirus and antivirus/antispam products with added personal firewall protection: Client Server Security and Client Server Messaging Security for SMB.

• • • • •

■ **Whale Communications** added an Express Edition to its Enterprise Edition that augments the existing offering by providing an out-of-the-box, policy-driven access product, ensuring that enterprises of all sizes can extend their existing application infrastructure while remaining policy-compliant and ensuring the integrity of their networks. The Express Edition, which scales to 250 concurrent users, offers the features of the Enterprise Edition including Whale's security and access functionality composed of its SSL VPN, application security, and endpoint security components.

### Storage

■ **Acronis** introduced Acronis Disk Director Server and Acronis Disk Director Suite 10.0.

Disk Director Server is a disk-management program for corporate-level servers. The Disk Director Suite also offers partition management and multibooting tools. The software now adds partition splitting and merging, CLI for the Server edition, partition navigation, booting from HDD2, and booting from CD or DVD (Workstation edition). Acronis Disk Director Server is compatible with Windows NT/2000 Server/2000 Advanced Server/2003 Server. Acronis Disk Director Suite is compatible with Windows 95/98/ME/NT 4.0 Workstation SP6/Me/2000 Professional/XP.

• • • • •

■ With the release of SQL Server 2005 from Microsoft comes several supporting products from **EMC** starting with EMC's Solution Suite For SQL Server 2005. This suite of software comes with everything customers need to consolidate information and configure backup and recovery services for Microsoft's new release. New services include a planning and consulting service (EMC Upgrade And Migration For SQL Server 2005). EMC Database Layout For SQL Server provides customers with an optimized SQL Server 2005 database that suits their needs. Finally, EMC's Recovery Optimization For SQL Server provides planning and implementation of backup solutions whether it's a local or remote backup. EMC Software Support For SQL Server 2005 provides additional software including EMC Networker Module For SQL Server 2005 (which provides fast online backup and recovery features) and EMC RecoveryPoint (which provides continuous data protection and lets you recover data from a specific time frame). For EMC CLARiiON users there's EMC Replication Manager SE, which lets administrators automate disk

replicas for backup purposes. Finally, there's EMC AutoStart, which provides for constant recovery of important applications including Windows Server System.

■ **Network Appliance's** NetApp Snap-Manager 2.0 for SQL Server is a near-instantaneous backup and recovery solution for Microsoft SQL Server 2005. The data-management software supports both NetApp Fibre Channel and iSCSI-based SAN devices to provide instant database recovery and automate SQL Server 2005 database migration. Capable of backing up and restoring hundreds of databases located on a single SQL Server installation, the software also features rapid storage provisioning and automated data management. It supports Microsoft Cluster Server and Microsoft Multipath I/O. SnapManager 2.0 for SQL Server includes NetApp SnapMirror, which is replication and mirroring software.

### Telephony

■ Observer 11 is a native 64-bit Windows version of **Network Instruments'** VoIP management application. (A 32-bit version is included, too.) Observer 11's time-based interface can analyze up to 8TB of VoIP traffic and locate delay points through up to 10 conversation hops. Improved statistics aggregation and call metrics round out this version's major enhancements.

### SERVICES

### Business Productivity

■ **UniPress Software** announced the latest version of FootPrints Hosting Service. Version 7.0 was designed for organizations that require an on-demand, Web-based platform to manage customer requests and other

Web tasks. Features of the software include the ability to define field-level permissions by role and status and the ability to generate master contact records. You can get Foot-Prints Hosting Service as part of a three-agent starter pack that runs $3,995. There is an annual fee for FootPrints Hosting Service, which starts at 18% of the license fee.

### Data Center Services

■ **American Power Conversion** launched its Blade Readiness Assessment Service, which analyzes the ability of a company to incorporate a blade server in its existing data center. The Blade Readiness Assessment Service considers a number of factors, such as power and cooling components, as well as the capabilities of the existing facilities and racks. The service also evaluates the management system for blade readiness. APC's Global Services staff also uses surveys to collect information before compiling a report that details possible constraints, suggestions for improvements to power and cooling, and strategies for deploying a blade server. APC's staff also includes a comparison of the company's facility with both typical and best-in-class facilities.

### Security

■ **Broadwing Communications** released Managed Premises-based Security Services. The security firm can adapt its service to protect environments ranging from branches to enterprise headquarters. The firm teams with Getronics, which provides Getronics RedSiren Security Solutions. The firm manages and monitors the customers from centers in Austin, Texas, and Reston, Va. Broadwing offers service-level agreements that include critical incident notification and other security management guarantees.

---

## Content Transformation
www.Processor.com/Atinav

The **WAP Gateway** acts as a bridge between the Internet world and the mobile world and offers services such as end-user authentication, encoding of WML pages, and WML script compiling. WAP uses the underlying Web structure to render more efficient communication between content providers and mobile devices. The wireless protocol employs Wireless Markup Language (WML) for application contents instead of Hypertext Markup Language (HTML).

An important feature of WAP is the support of telephony service integrated with microbrowsing of data. aveAccess WAP Gateway acts as a proxy between the wireless network and the Internet while encoding WAP data into byte code to conserve bandwidth.

**Atinav**

100 Franklin Square Dr., Suite 401
Somerset, NJ 08873
Phone: (732) 412-3000
Fax: (732) 412-2145

## Load Balancing
www.Processor.com/Astrocom

**Solutions Starting at $1,295**

The PowerLink Pro100™ creates multi-homed networks without BGP to eliminate link congestion and bottlenecks for fault tolerant connectivity and continuous service availability. Key benefits include:

• Intelligent traffic management and load balancing across all links
• Automatic link failover including VPN and VoIP failsafe with traffic shaping to guarantee availability and performance

**ASTROCOM**
1-800-669-6242

2500 Holly Lane #60
Plymouth, MN 55447
Phone: (800) 669-6242
Fax: (763) 551-0664

## Load Balancing
www.Processor.com/RNI

Retail price
**$4,000**

**Internet Service Management Device**
Entry Level Model ISMD-5M (up to 5Mbps)
ISMD is a comprehensive **Network Traffic Management System** that features multi-homing load balancing, Application-layer traffic shaping, P2P traffic filtering and worm-scan detection and blocking. Your ROI guaranteed in less than one year.

**RNi** Rether Networks Inc.

90 Mark Tree Road
Centereach, NY 11720
Phone: (631) 467-4381
Fax: (631) 467-4597

## Load Balancing
www.Processor.com/Vieo

The VIEO appliance manages performance of Microsoft Web and Citrix application infrastructures, unifying visibility and control in a single intuitive interface. In Web environments it measures application service levels in real time, diagnoses problems, and automates changes required for business certainty. For Citrix environments, it enables proactive problem diagnosis before users call the help desk and automatically provisions servers to meet business demands.

**VIEO**

12401 Research Blvd, Bldg. 1
Austin, TX 78759
Phone: (866) 999-VIEO (8436)
Fax: (512) 257-3101

## Load Balancing
www.Processor.com/F5

**$9,000 - $70,000**

**BIG-IP 5000: Award Winning Application Traffic Mgmt.**
• Ensure applications are always available
• Accelerate applications by up to 3x's
• Triple server capacity/reduce bandwidth costs by up to 80%
• Greater network and application security
• Industry leading performance
• Simple to manage, new GUI interface

**f5**

401 Elliott Ave West
Seattle, WA 98119
Phone: (866) 543-9373
Fax: (206) 272-5556

## Load Balancing
www.Processor.com/Xincom

MSRP
**$589**

The XC-DPG602 provides Enterprise-class features in security and load balancing services for multiple broadband connections. Advanced features include Inbound and Outbound load balancing, a built-in authoritative DNS, and full connection redundancy for your network.
2 x 10/100 WAN Ports • 4-Port 10/100 Switch

**XINCOM**

2600 Industrial Ave.
Hubbard, OR 97032
Phone: (888) 494-6266
Fax: (503) 982-1338

# Outsourcing: The Rest Of The Story

I just read Mr. Sixto Ortiz Jr.'s article, "Is Outsourcing Overhyped?," in the Oct. 28 issue with some interest. It's a subject near and dear to the hearts of developers here in the United States (and I dare say Canada) and probably closely watched by offshore developers in Who-knowswhereistan.

However, this article didn't mention one of the "hidden" costs that impact every one of us—at least everyone who has to deal with offshore support teams. These issues apply not only to those here in North America but in other countries as well; anyone who has to deal with an outsourced customer support organization.

## Wasted Days & Wasted Nights

Case in point: I just wasted another 30-some-odd hours trying to get a major U.S. company to honor the warranty on an expensive consumable for my printer. I logged a total of nine phone calls and "chats" with what the company refers to as "award-winning" customer support experts. These calls start with a phone filter that routes the call to the right support staff, assuming your problem falls into one of the categories. (Apparently mine didn't.)

Once connected I got to talk (very slowly and c l e a r l y) to a phone tech, "Sean," who could not pronounce "Vaughn" to save his soul. I guess his Irish brogue was lost somewhere in his east-Asian upbringing. As a result, I'm considering changing my name to "Sahil" to save confusion. It took several tries before (I thought) they had my email address (even spelling it phonetically), but they never really got it.

Invariably, when the tech could not answer the questions such as, "Are you going to honor the warranty as stated on your packaging and Web site?," they either (a) hung up or (b) put me on hold to talk to their supervisor. When I asked to speak directly to this all-knowing expert they either (a) hung up or (b) promised that the supervisor "would be calling me right back." They never (as in never) did.

## If At First You Don't Succeed . . .

To make a long (too long) story short, I finally got someone in the United States to order the parts. I received them the next day. This person was clearly from the United States; he sounded and acted like he actually cared about me as a customer and wanted to make me happy, at long last. The next day the parts arrived, and he called back again to make sure they were working. But why did it take a month of trying and countless wasted hours? I've been using this company's products for years, but at this point it's probably lost another customer. That's the "hidden cost" of outsourcing customer support.

Over the past four or five years I've had similar encounters with other large "American" companies that have outsourced customer support. Now I think twice each time I need help. Ironically, I expect that's what these companies want: for consumers to leave them alone and not bother them with piddling details about their products that don't do what their ads say or don't hold up any longer than a carton of eggs left out on the kitchen counter. I've already added these companies to my blacklist and I tell my customers to do the same.

Hiring developers to write the best software in the world won't keep a company out of the red if the support staff can't help (and keep) the customers that have problems. I think corporate management needs to ask, "Is he talking about us? How do our outsourced support teams really treat customers?"

## IBM Does It The Old-Fashioned Way

On the other hand, I've had to deal with companies such as IBM that have outsourced manufacturing of their notebook line to China (Lenovo). Thankfully, when I call for support from

## WILLIAM (BILL) VAUGHN

AUTHOR

*William (Bill) Vaughn is an industry-recognized author, mentor, and subject-matter expert with more than 30 years in the computing industry as a developer, manager, trainer, marketer, and writer. After 14 years at Microsoft, Vaughn stepped away to work on his new books, in addition to mentoring and leading training seminars. He's written six editions of the "Hitchhiker's Guide to Visual Basic and SQL Server" and two editions of "ADO.NET and ADO Examples and Best Practices for Visual Basic Programmers." He and Peter Blackburn just finished "Hitchhiker's Guide to SQL Server 2000 Reporting Services."*

"IBM," I'm greeted by an announcement that "This call is being routed to our support center in Atlanta, Ga."

OK. It's true that I speak several dialects of "Southern American," so it's easier for me to understand the support professionals that answer the phone. But it's not just the familiar southern twang that makes a difference; it's the attitude. I can hear that these people are better trained and have genuine customer empathy. It's like they know I could be a neighbor or someone they know personally; they act like they really want to help keep me as a customer.

The folks overseas don't seem to have this empathy. They have made it clear that they just want to get rid of me and get on to the next call. Perhaps that's what outsourcing means. The outsourced employee is not really working for the company whose phones they answer, they're working for someone else and couldn't care less about the customers they're supposed to serve. Now that's expensive. 🔲

*Send your comments to bill@processor.com*

## OPINIONS
### INFRASTRUCTURE

# Techno-Bill Clones

In my previous column, I poked a little fun at a state employee who wielded more personal electronics than "Techno-Bill" from Scott Adams' "Dilbert" comic strips. Well, judging from reader feedback, Nebraska is not the only residence of a man named Bill with a belt full of toys! In fact, the problem of needing an array of mobile electronics seems to reach as wide as the circulation of our publication.

While the creation of multi-function devices and shifting paradigms, like I proposed in the aforementioned column, can help reduce the number of devices we need a belt clip for, I think one more thing needs to happen before the problem is completely solved. Mobile devices need to break their ties with dedicated carriers. We need a multifunction mobile device that is capable of supporting different carriers for different services or even different billing instances of the same carrier (no pun intended on "bill"-ing), and some pretty intriguing things start to happen.

### Lightbulbs

Credit where due, the ideas here all stem from the comments of an ex-telecom engineer, ironically enough named Bill, who stated a desire for a "two-line cell phone." It was like the cartoon lightbulb just appeared above my head. Devices that can connect to multiple carriers would allow us the greatest possible flexibility in how we use those devices without the need for a separate device for each type of use. The obvious benefits can be seen in applications like voice. If I had a device that could support two phone numbers, my personal calls could be placed, received, and billed to the personal number; business calls could be placed, received, and billed to the business number; and I only have to carry one phone.

Perhaps a bit less obvious advantage would be the ability to custom sculpt service plans to your needs. Right now mobile service carriers for voice and data have to try to be all things to all people. They generally package some fairly attractive deals, but one size does not fit all. Not many organizations of any significant size have all their terrestrial voice and data services from a single carrier. But that is exactly what the mobile carriers want to force us to do, and it causes less than optimal conditions all the time. Even if you use more than one mobile carrier to meet your organization's needs, at the individual level more than one carrier means more than one device (and a pair of fashionable suspenders).

### "Wearable" Barriers

So why isn't this miracle device already on the market? Obviously there would be a few

### MICHAEL DEMPSEY

*Michael Dempsey is the information technology manager of Sandhills Publishing and technical editor of* Processor *magazine. He has more than a decade of experience in voice and data communications and holds current CCNP and CCDP certifications. Dempsey is an expert in network security, virtual private networks, and IT infrastructure.*

technical barriers to overcome with all the current and emerging mobile technologies in use today. And building an affordable device that could speak to so many different protocols could prove challenging. We are all already familiar with the pains of software and hardware patching/fixing/etc. when a technology comes from only a single vendor. But these are obstacles that are always brought to a bearable level (or perhaps more appropriate here, a "wearable" level) through normal technology development and the laws of supply and demand.

The more significant barrier to overcome would be getting the carriers to play along. In our current "everything from one carrier" approach, it's easy to see who's winning: the giant carriers. A quick look at the mergers and acquisitions in the cellular market will confirm that answer.

Those industry giants like the idea of pushing out the competition and committing you to them for everything they can. They know their package deals likely mean that you are paying too much for some aspect of your service. They know how hard it is for you to change to another carrier when so many services are riding on that one decision.

But there is hope. All we need is for one carrier of any significant size to realize that its net effect would be to gain more revenue from additional subscribers than it would lose in sharing some of its current revenues with other carriers. Because if one of them were to do it, they would all be forced to do it. Look at the benefits. If the market got a taste for it with anyone, the market would demand it from all of them. Case in point: Anybody have a cell phone plan with free evenings and weekends?

### Specialization

What I am really talking about is specialization. Specialization is arguably what makes the entire global economy work. When a company can focus on what it does best, it gets even better at it. Greater efficiency leads to greater profit margins and lower prices for consumers. If mobile devices were more independent of the carrier, smaller, more specialized carriers could exist and we would all benefit.

It probably won't do us much good to appeal to our incumbent carriers, but the next time the competition calls hoping to get a piece of your company's mobile services, tell them Bill says they need a two-line phone. ▣

*Send your comments to mike@processor.com*

# OPINIONS
## TECHSPERTISE

# Small Businesses Give IP Telephony Another Listen

Small and midsized businesses are turning to VoIP, and for good reason: It promises both tremendous cost savings and increased functionality.

A reduction in monthly call charges is only half of VoIP's attraction for SMBs. Converged networks present users with multiple avenues to cost savings. IP telephony puts telephones on the same network as data, carrying voice traffic in a digitized form and enabling other applications, including IP videoconferencing, faxing, and unified messaging, to run simultaneously. This eliminates the extra burden and cost of maintaining separate networks for each function. Because these functionalities are software-based, they can easily be added without incurring significant additional investments in hardware.

## Leveling The Playing Field

VoIP also helps SMBs compete with larger enterprises. The Internet and globalization are providing SMBs with an opportunity to take a broader view of their geographic markets and how they do business. SMBs now face many of the same challenges larger enterprises have faced for decades, including the costs associated with a mobile workforce, remote offices, worldwide partners, and foreign markets.

IP telephony helps SMBs address these challenges and adds value by providing cost-saving alternatives for collaborating over greater distances. Separate phone systems between offices can be unified and added to data traffic, reducing interstate toll charges for remote workers while strengthening connection quality. A videoconferencing application can be added to the IP platform for virtual collaboration.

While IP telephony has many advantages for businesses, it's not for everybody. VoIP still hasn't reached the high uniform service levels standard for analog PBX systems. But with the proper router, switch hardware, and bandwidth in place, VoIP can match the level of reliability most people take for granted with the traditional phone systems. In addition, IP-based systems offer a price and convenience factor traditional PBX can't beat.

## VoIP Preparations

Companies eager to shift to IP telephony should:

- Conduct a network assessment to determine whether their current LAN infrastructure can support an IP-based application, such as VoIP. With both data and voice traffic converged onto a single network, companies should expect a significant increase in bandwidth utilization. Re-creating a surge in traffic during peak utilization hours will help measure the capacity of the LAN infrastructure. IP telephony buyers should conduct this testing and ensure they understand the true cost. Installations often come to a halt because estimates and initial tests are rushed without a comprehensive audit to factor in variables including power requirements or new routers.
- Have a strong knowledge of both data and voice networks and appropriate IT support. While a company with VoIP doesn't need separate voice and fax circuits or separate telecom and IT departments, it will need to integrate voice/VoIP experts into its IT operations to redesign the Internet backbone for voice and help manage and maintain the new VoIP and data network.
- Choose a system that will grow with your business. Because the technology changes rapidly, it must: 1) be easy to upgrade; 2) have ample bandwidth and connectivity; 3) include a plan to integrate Session Initiation Protocol, which provides the framework for delivering voice, video, data, and wireless services seamlessly and transparently over a common network; and 4) come from a reputable vendor with staying power.
- Evaluate the cost-to-benefit ratio and the standards required for greater manageability. Protocol support is particularly critical with IP telephony or VoIP because these networks have the capability to support

numerous current and future applications. Protocols help catalog the compatible software and hardware options available to a given technology and indicate whether an application can support capabilities down the road. For example, consider switches that support the 802.3af power over Ethernet, the first international power-delivery standard, and its cousin, 802.3p. The 802.3p network management standard isolates voice from data traffic, improving the quality of service, while the former provides the basis for powering deskset phones and wireless access points over the network wiring. With 802.3af, a company can eliminate the need to run AC power outlets to desks and other phone locations, which can be expensive and difficult. It also lets IT provide backup power for these devices from the wiring closet instead of via several UPSes scattered throughout the office.

Finally, finding a good vendor is key to a successful transition to VoIP, and because most SMBs do not support a large IT staff, they will probably need to outsource integration and maintenance.

*Send your comments to CDW@processor.com*

## JUSTIN HESTER

AUTHOR

*Justin Hester is part of a team of experts that designs customer telephony solutions. He holds both Avaya ACA and ACS certifications, as well as Cisco CCSA. Hester excels at helping customers design, deploy, and support IP applications, including VoIP and videoconferencing from as few as 10 to as many as 28,000 endpoints.*

## IDS/IPS/DoS
**www.Processor.com/Intrusion**

**Intrusion SecureNet Intrusion Prevention & Detection**
• Available for 10, 100, 250 and 1,000 Mbps networks
• Software Sensor turns leading servers into IDS/IPS
• Tweak, Tune and Create Pattern-Matching and Protocol-Decode Signatures
• Standalone Productivity for Smaller Network Deployments
• Low TCO with remotely manageable Sensors

INTRUSION

1101 E. Arapahoe Rd.
Richardson, TX 75081
Phone: (972) 234-6400
Phone: (888) 637-7770

## IDS/IPS/DoS
**www.Processor.com/ForeScout**

**The All New CounterACT 5.0**
ForeScout's network security platform combines network policy enforcement and access control, Intelligent Intrusion Prevention™, and vulnerability assessment in an enterprise-class security appliance. ForeScout offers real-time automated protection against self-propagating malware and malicious hacker attacks for a defense-in-depth strategy that ensures network availability and business continuity.

ForeScout

10001 N De Anza Blvd, Ste 220
Cupertino, CA 95014
Phone: (408) 213-3191
Fax: (408) 213-2283

## IDS/IPS/DoS
**www.Processor.com/Psynapse**

**Checkmate Intrusion Protection System**
• Real-time behavioral assessment of intent
• Capability to detect unique or new forms of attack
• Automated tracking and blocking
• Automated profile development to aid forensic analysis
• User-friendly graphical user interface
**www.Processor.com/Psynapse**

psynapse
TECHNOLOGIES

1025 Thomas Jefferson St. NW, Suite 300E    Washington, DC 20007
Phone: (800) 431-0830     Fax: (202) 298-2689

## IDS/IPS/DoS
**www.Processor.com/Xaffire**

Xfire is 'Instant Replay' for your website. Xfire captures, stores and plays back the entire session for every real user, providing monitoring and alerts on content and statistics for known problems and robust search functionality for newly discovered problems. See the behavior of your users and the response of your applications in real time with Xfire.

xaffire™
See the whole picture

100 Superior Plaza, Ste 200     Louisville, CO 80027
Phone: (303) 642-4450     Fax: (303) 642-4003

## Multifunction Appliance
**www.Processor.com/BladeFusion**

**Consolidating Security Gateways into Centrally Managed, High-Performance and High-Availability Multi-Bladed Platforms**
• Unbeatable openness, cost/performance, ROI and quality
• Flexible, dynamic and secure creation of ultra-complex network topologies
• Hot-swap maintenance, upgrades & servicing -- low TCO

BLADEFUSION

3209 Barkley Dr.
Fairfax, VA 22031
Phone: (703) 573-6961
Fax: (703) 935-7519

## Multifunction Appliance
**www.Processor.com/Avanton**

**ReadyARM eliminates the complexity gap for SMBs**
• Secure & Manage networks
• Comply with regulatory demands
• A simple multifunction plug-n-play security appliance
• Providing alerting, compliance reporting and security management in less than two hours
• The ReadyARM is designed and priced for the SMB

Avanton

633-101 Hutton St.
Raleigh, NC 27606
Phone: (919) 827-0284
Fax: (919) 755-2266

## VPN Appliance
**www.Processor.com/CipherOptics**

**SG1001 - Full Duplex Gigabit Network Encryption**
• Extremely low latency
• AES and 3DES IPSec encryption
• Integrates into existing IP network - Plug-and-play
• FIPS 140-2 Level 2 validation
• Network security without complexity
**Visit www.Processor.com/CipherOptics For More Info!**

CIPHER OPTICS

701 Corporate Center Drive
Raleigh, NC 27607
Phone: (919) 865-7330
Fax: (919) 233-9751

## VPN Appliance
**www.Processor.com/DCB**

**$489**

• Two Ethernet ports: 10BaseT, 10/100BaseT
• Two asynchronous serial RS232 ports
• Tunnels all Ethernet protocols, not just IP
• AES 128 bit encryption
• Remote PC appears to be on the local network
• AC and DC power supply options
• Supports both broadband and dial-up connections

DCB

2949 County Road 1000 E
Dewey, IL 61840
Phone: (800) 432-2638
Fax: (217) 897-1331

## VPN Appliance
**www.Processor.com/Celestix**

**$5,995**

**Celestix RAS3000 Remote Access Appliance**
Dedicated high-performance appliance devoted to remote access. The appliance is inexpensive, high-performance, remotely manageable, and reliable. It is standards based with a familiar browser-based interface that enables enterprises to easily install, configure, and maintain remote access VPNs. Supports PPTP, L2TP/IPSec and SSL VPN.

celestix

48001 Fremont Boulevard
Fremont, CA 94538
Phone: (510) 668-0700
Fax: (510) 668-0710

## VPN Appliance
**www.Processor.com/F52**

**$9,000 - $90,000**

**FirePass 4000: Award Winning Secure Remote Access**
• Supports more applications and advanced Security
• Highest scalability up to 2,000 concurrent sessions
• Low cost of ownership installs in 30 minutes or less
• Market leading performance
• Supports for Radius, LDAP and more
• High availability and reliability

f5

401 Elliott Ave West
Seattle, WA 98119
Phone: (866) 543-9371
Fax: (206) 272-5556

## VPN Appliance
**www.Processor.com/F53**

**$3,995 - $5,500**

**FirePass 600: Secure Remote Access Designed for SMB**
• Rapid install – 30 minutes or less
• Client side software NOT required
• More reliable, easier to use than IPSec
• Automatic integrity check of user devices
• Super fast performance and easy to configure
• Earned the trust of over 9,000 customers

f5

401 Elliott Ave. West
Seattle, WA 98119
Phone: (866) 543-9372
Fax: (206) 272-5556

## VPN Appliance
**www.Processor.com/Aventail**

**The Aventail® EX family of Smart SSL VPN Appliances**
• Clientless anywhere secure access to Web, client/server, and file shares
• Easy to administer, easy to use
• Unified policy management
• Industry-leading End Point Control
• Proven on an enterprise scale

Aventail
More secure. More access. It's that simple.

808 Howell Street
Seattle, WA 98101
Phone: (206) 215-1111
Fax: (206) 215-1120

# Cable Failure On Copper & Fiber Networks

## The Case For Preventive Maintenance

*by Alan Petraske*

• • •

LET'S SAY YOU have a high availability system with plenty of redundancy. Failed components are automatically detected and configured out of operation. Your features for error detection, diagnosis, and recovery are pretty much state of the art. But how well are you protected against failures in the network cables themselves?

Industry spokespersons agree that IT personnel often overlook management of the physical cable network, even though the cable has become proportionally expensive as electronic equipment prices continue to fall. As a result, the ability to locate and repair problems quickly, manage and reassign cable capacity for changing demands, and plan and document performance have emerged as key issues.

### EIA/TIA Cable Installations

Chances are, your network cables are UTP (unshielded twisted pair) cables. UTP cable comes in several different grades, called categories by the EIA (Electronics Industry Association) and the TIA (Telecommunications Industry Association). (See the "Categories Of UTP Network Cable" chart for more information.) Today, most network cables conform to EIA/TIA category 3 or 5 and are wired in a star topology with all cables feeding into a central hub or connector. The hub is usually in a server closet or other protected environment. But the causes of failure in the cables themselves are numerous. Cables age. They overheat. They move and fray against their conduit. If your installation runs behind walls, between floors, or underground, rodents will happily gnaw on the cable sheath whenever they can.

### Cable Components

Let's take a closer look at these taken-for-granted components to see what you can do to prevent failure. UTP cable contains eight separate insulated copper wires arranged in four pairs of twisted conductors. The differing numbers of twists prevent the signals on the different wire pairs from interfering with each other and also provide resistance to outside interference. The cable connectors are called RJ45s, the same as the connectors used on standard telephone cables, except that they have eight electrical contacts instead of four.

Three basic tests determine the EIA/TIA specs for all UTP cables: wiremap, length, and high speed performance. They apply to new installations, of course, and are applied to repair failures in current systems. You may want to test periodically, before cable failure occurs. Test first for wiremapping errors such as reversed wires in a pair, crossed pairs, open connections, or shorts. To locate shorts or open connections, you test cable length against EIA/TIA specs. Test for performance by measuring signal attenuation against EIA/TIA specs. There are pass/fail criteria for the cable at Cat 3, 5, and 5e maximum frequencies.

### Fiber-Optic Installations

If you're planning or maintaining an installation that spans a relatively long distance or one that connects buildings on a campus, you may well be using multimode fiber-optic cables. Instead of carrying signals over copper conductors in the form of electrical voltages, these cables transmit pulses of light from an LED source over a glass or plastic conductor. Although still more expensive than copper, fiber-optic cables are completely resistant to the electromagnetic interference that so easily affects copper-based cables, much less subject to attenuation, and more secure.

The tools and testing equipment required for fiber-optic installation are different, as are the repair and maintenance guidelines. Testing is done with a remote fiber test system, a distributed monitoring system that monitors the optical fibers of the network by using OTDR (optical time domain reflectometer) measurements at prescheduled times. This makes it possible to identify changes in network performance before service is affected. Testing can monitor spare or active fibers; measure quality degradation; and document and store test results, quality data, route configuration, and geographic landmarks.

Measured results are compared with reference measurements. When deviations exceed the tolerated margins, alarms are sent back in real time to a central site controller. This can eliminate the need to dispatch many skilled technicians with expensive test equipment just to locate a fault. The goal here is to dispatch to fix, not to find. ▣

## Categories Of UTP Network Cable (EIA/TIA 568 Specifications)

| Category | Business Use |
|---|---|
| 1 | Voice-grade telephone networks only; not for data transmissions |
| 2 | Voice-grade telephone networks, as well as IBM dumb-terminal connections to mainframe computers |
| 3 | Voice-grade telephone networks, 10Mbps Ethernet, 4Mbps Token Ring, 100BaseT4 Fast Ethernet, and 100VG Any LAN |
| 4 | 16Mbps Token Ring networks |
| 5 | 100BaseTX Fast Ethernet, SONet, and OC-3 ATM networks |
| 5e | Gigabit (1000Mbps) Ethernet protocols |

# Handling Your Company's Micropayments

## An IT Challenge, Whether Internal Or With A Third Party

*by John Brandon*

• • •

SOMETIMES, BIG PROBLEMS come in small packages. In IT, handling small credit card transactions—any item that costs $5 or less—can prove challenging. Managers must develop a strategy to capture business intelligence about a customer, negotiate contracts with vendors by territory, plan network coverage for the increased online activity that results when many people make small purchases, and decide if a third-party micropayment vendor matches well with the current company infrastructure. At large retail companies such as Best Buy or Wal-Mart, micropayments can become a costly exercise, especially given the resulting revenue from products sold. And any company considering ecommerce eventually has to deal with the issue.

"To make any payment under $10 is inefficient because of the fees you pay for each electronic transaction with Visa or Master-Card," says Mike Friedman, a consultant with the payment services firm Mercator Advisory Group.

According to Friedman, the most common use for micropayments, even in nonretail organizations, involves internal subscriptions to research and other content. Many large companies sign up for services such as *The Wall Street Journal* and then must handle the micropayments from employees who want to buy research articles. Outside of IT, in the consumer market, the most common use is for handling music purchases. In retail, integration with the existing point-of-sale platform is the greatest challenge because some vendors operate autonomously from existing systems.

Of course, any company can decide to sell low-cost products online. A restaurant chain could start selling gift cards on a corporate Web site, or a food manufacturing company could decide to sell hats or other clothing in addition to its primary goods. Micropayments exist outside of ecommerce, as well. They are used for parking meter fee collection, DVD rentals at kiosks, and vending machines.

### Different Approaches

There are two options when it comes to accepting a micropayment: an internal solution that ties directly into an existing POS platform or contracting with a third-party vendor. And there are two main micropayments approaches. "Stored value" is where customers pay for a subscription. For example, a customer might purchase a $50 credit and then use that credit for a set period, such as up to a year. There is only one credit card transaction, but the internal system tracks usage. The second, more complex approach involves aggregation, where the system tracks all customer purchases during a set period, such as a month, and then bundles them into one credit card transaction.

There's also a pay-as-you-go hybrid method where the IT system might track purchases up to a certain point and then rely on a third-party vendor for the actual micropayment credit card transaction. Some vendors such as Peppercoin offer an API that lets an internal system interface with the external vending transaction, which eliminates the need for IT to negotiate with Visa, Master-Card, or any other vendor.

"When considering customer payment preferences and their influence on customer take rates, the strategic decision to operate the business with multiple blended business models may prove most effective," says Bob Nix, the CTO and vice president of engineering at Peppercoin.

### External Options

IT managers who decide to offload the processing duties entirely to a third party play a strategic role in selecting the correct vendor and choosing a service with the most value to the organization. For example, one vendor may interface well with Oracle while another vendor may work better in a Microsoft environment.

"The level of IT involvement varies depending on the micropayment vendor's capital and budget requirements for installation, deployment, training, and maintenance," says Kurt Huang, founder and vice president of BitPass, a micropayment vendor. "Managers should consider factors such as the fit with current and planned internal systems and the one-time and ongoing costs associated with installation, deployment, training, and maintenance."

Some micropayment vendors, such as BitPass, do a better job of tracking customer intelligence. You can decide to limit customer purchases to just three per month, for example. Other vendors, such as Peppercoin, operate most efficiently offline, where most micropayment transactions occur. Paypal is another popular option, although Friedman notes that Paypal might not be the best choice for every company.

"Bitpass excels at digital content management," Friedman says. "Their product can be co-branded to the specific site. Peppercoin's biggest strength is in operating outside of the online world, which opens the door for much larger revenues for companies, with more access to a wider array of transactions. Paypal has lowered the costs of their micropayment services recently and obviously has a strong lead in the market."

Part of the challenge, of course, is that the ecommerce world is changing quickly. Customers expect more service and support for all transactions, even those under $5. Whether you're building an internal system or contracting with a vendor, you should consider the variables of customer relationship management, making the vending process as smooth and predictable as possible, maximizing the revenue on each transaction, and handling online complaints that result from an incomplete or erroneous micropayment. The result? Micropayment vending won't become a macro problem for IT.

> **"The level of IT involvement varies depending on the micropayment vendor's capital and budget requirements for installation, deployment, training, and maintenance."**
>
> *- BitPass' Kurt Huang*

## Micropayment Vendor Options

Here is a breakdown of three popular micropayment vendors and their respective features to help you decide which, if any, is right for your small to midsized enterprise.

| Vendor | Features | URL |
|---|---|---|
| BitPass | • Controls access to the digital content based on usage and/or time-based rules<br>• User authentication controls<br>• Free or reduced-price passes and complimentary prepaid accounts | www.bitpass.com |
| PayPal | • Most widely used and trusted vendor<br>• Recently lowered costs<br>• Web services API | www.paypal.com |
| Peppercoin | • Consumer self-care service<br>• Intelligent Aggregation bundles small charges<br>• API for integration with IT systems | www.peppercoin.com |

# One To Many Or Many To One?

## The Question Of Whether To Decentralize The IT Department

*by Steven S. Ross*

• • •

SHOULD YOUR organization have one centralized IT department, or should the IT function be spread around? Big organizations answered the question long ago: decentralize. While they almost always maintain a core IT function, many branches of the enterprise are big enough to require their own specialized functionality and staffing.

Universities, for instance, typically have a central IT department to handle email, personnel, and academic record keeping. But individual schools in the university will also maintain their own small IT operation to keep school records and to service student computer labs and faculty offices.

Another common division is between mission-critical networks and computers, often specialized, and the general network used by everybody. In news organizations, for instance, technology used for producing the product is separated from everything else—even from the public Internet, if possible.

But what about small to midsized enterprises? Many, of course, outsource IT entirely. Is it worthwhile to create or hire a special IT department to handle sales? Or to allow each branch office to run its own IT function? Should there be a strong central operation assisted by departmental IT managers who handle only department-specific tasks? SMEs have many factors to weigh in this decision, one of which is the importance of the manufacturing function.

### Manufacturing: Special Attention Needed

A Forrester report issued last March by Andrew Bartels says SME spending on IT was $320 billion in 2004 and accounts for 48% of all U.S. IT spending. It is also growing faster. However, SME spending differs significantly from the enterprise market, with services industries such as government, healthcare, and professional services representing much more than three-fourths of the total and SME manufacturing lagging.

For example, in a study released last January, AMR Research noted that only 40% of small manufacturers (50 to 1,000 employees) use modern Enterprise Resource Planning tools to work with other companies in the supply chains. The system-to-system connectivity helps exchange orders, manage inventory efficiently, and forecast demand. The manufacturing function may be held back by an IT department more attuned to within-the-company data exchange. In that case, AMR Research suggests, the organization may be ripe for a shop-floor-only IT department or outsourcing the ERP function to a specialized service bureau.

### Review Technology & Organizational Needs

Another consideration for choosing centralization or decentralization is where new technology and organizational needs rank in the SME. New technologies, as well as changing organizational needs, require constant review. For example, Hitachi introduced its Thunder 9500 V Series storage system 18 months ago. It was designed for distributed use in a large enterprise, with remote management (including delegated administration and nondisruptive upgrades). But most sales have been to smaller, growing businesses, Hitachi says. This technology makes it easier for a centralized IT department to service remotely located disk drives, but it also makes it easier for local IT departments to work on the disk volumes at the same time.

Likewise, SOHOware's BroadLink family of load balancer appliances lets a small business eliminate single-point failure, reduce chances of network congestion, and provide bandwidth management in a single device. It handles the familiar load balancing task, the WAN itself. But it also can handle server load balancing. Products such as this one argue for centralizing the IT function.

### How Fast Are You Growing?

As a small firm grows, there's a temptation to fragment the IT needs, with each little part of the enterprise keeping the same familiar small-scale IT tools the organization started with. Norbert Kubilus, a partner in Tatum CIO Partners, a company that consults on technology for growing firms, says that's a mistake.

While he warns against growing firms "overbuilding their infrastructures," he says they should "buy a little bit above what they need, not a lot above." It takes a centralized IT department to do that and to avoid duplication of services and equipment among separate departments.

Kubilus says only a central IT department can set organization-wide standards for future purchases, to minimize the risk of buying incompatible technologies. "Standards are absolutely important for growing companies; standard hardware and software reduce maintenance expenses," he says.

Another argument for centralization: Even when the organization is growing slowly, the data may be expanding at a much faster rate. Yankee Group, in an October 2004 study, said 86% of SMEs surveyed worldwide identified "managing explosive data growth" as an issue and that 26% were under pressure to comply with data retention and security regulations such as those required by the Sarbanes-Oxley Act.

Likewise, Ashwini Bhatnagar, HP's sales program manager for Asian-Pacific SME accounts, says SMEs need to have an IT organization that can identify threats to the business by keeping internal data up-to-date and secure. He says they should also establish (and implement when necessary) a backup and recovery procedure to ensure business continuity is possible in the event of a failure. In both cases, spreading critical skills around multiple IT departments can reduce efficiency and increase response times. ▯

## Split Off Or Augment Some IT Functions When:

- The organization has remote branches that need onsite expertise.
- Specific organization functions such as the factory floor vary greatly from company-wide norms or industry-wide standards.
- Certain departments need extra-special attention to security, response time, or quality of service (uptime).
- The SME is outsourcing IT anyway; specific organization sites or functions may require specific outside expertise or a small supplementary in-house staff.
- The organization has grown by acquisition; review IT company-wide every six months to find opportunities for consolidation beyond the early obvious (personnel, bookkeeping, etc.).

## Centralize IT When:

- The organization is growing fast; decentralization leads to incompatibilities and lack of long-range vision.
- Security needs have been identified and are beyond small-department skills.
- Record-keeping must conform to an organization-wide policy due to regulatory requirements or industry norms.
- The organization is so small that splitting it would add headcount or reduce staff promotion and training opportunities.

## WHAT'S HAPPENING

# Wide Area Data Services

## Giving Distributed Enterprises The Boost They Need

*by Chris A. MacKinnon*

• • •

IF SOMEONE WERE to tell you that network optimization could save branch office employees an hour a day, would you want to know more? Or what if it were possible to enable global server consolidation into one data center? These are just some of the surface-scratched benefits that Riverbed, a WAN solution provider, claims are possible through a new technology called WDS (wide-area data services). The company says WDS solves the problems of latency and bandwidth that plague a wide variety of applications over distributed networks.

### The Case For WDS

Alan Saldich, spokesperson for Riverbed Technology, says, "Businesses are becoming more reliant on the WAN as workforces are becoming more distributed and must rely on WANs for communications between headquarters and branch offices. In addition, IT is moving toward recentralization because of security, economic, and compliance pressures. However, remote office WANs often have 100x less bandwidth than headquarters-based LANs. And latency of a WAN link can be thousands of times higher on a WAN than on a LAN. It's this combination of very thin bandwidth and high latency that severely degrades application performance across WANs. These opposing forces mean application performance across WANs must improve dramatically if globalization and data centralization are to truly succeed."

In a nutshell, WDS is the superset of several smaller market segments: WAN optimization, WAFS (wide-area file services), and application acceleration. WDS technology accelerates a wide range of enterprise applications used on WANs, including file sharing, email, Web applications, backup and replication, and many others.

Problems including bandwidth constraints, TCP chatter, and application chatter can be fixed at the same time with WDS. This is the main idea behind the technology. In a recent article titled "WAN Optimization: Finding the Best Approach," Apurva Dave, senior product marketing manager at Riverbed Technology, discusses the aim behind the technology. "WDS-based products aim to collapse several point products into one holistic solution, designed from the ground up for efficiency, scalability, and ease of management. The best WDS

> **WDS technology accelerates a wide range of enterprise applications used on WANS, including file sharing, email, Web applications, backup and replication, and many others.**

products look at information on the byte level, instead of the file level, which enables them to reduce and share data redundancies across different applications and different protocols. WDS solutions can then solve a broad range of remote office IT performance issues with one device."

### Steelhead Technology

Saldich says Riverbed uses a new generation of IT infrastructure, called Steelhead appliances, for distributed server and storage infrastructure and WANs, which can accelerate enterprise applications by up to 100-fold. The appliances are deployed in enterprise data centers and in remote offices. He says the company uses patented algorithms in its Riverbed Optimization System, or RiOS, software to eliminate all repetitive traffic from enterprise WAN links and mitigate the effect of high latency on all TCP-based applications. The appliances are based on Riverbed's Universal Transport Architecture, which optimizes bandwidth and latency while adding incremental application-specific latency optimizations to minimize the impact of latency on key applications (unlike competing approaches that are built on either a network or storage philosophy).

Riverbed's Steelhead appliances further solve WAN performance problems using a variety of technical combatants. SDR (scalable data referencing), for example, removes all redundant data from all WAN traffic flowing over TCP. The appliances are also TCP proxies and set up a far more efficient TCP session between the appliances at the transport level. Application level protocol optimizations also further improve the performance of Microsoft Windows, Exchange, and SQL-based applications, as well as HTTP for Web-based applications, and file copying.

Riverbed says it's the only vendor with a complete WDS solution that addresses redundant data, transport-level problems, and application-level problems. Saldich says other alternatives in the same arena are only partially attacking the problem. One common method includes data compression using memory-based compression techniques. He says memory-based systems have insufficient storage to keep repeated data long enough to be useful. Another common method includes caching objects or files belonging to a specific application so that subsequent requests of a remote server for the identical file could be fulfilled from a cache located nearer to the user. Saldich says cache-based systems rely on file names and are application-specific.

Yet another tactic some companies use is TCP optimization. Saldich says that transport-level optimization is necessary but not sufficient for most enterprise applications. He notes that while some other vendors offer TCP optimization appliances, most of them, he says, do not offer bandwidth optimization and application-level optimizations.

### A Positive Future

Saldich also notes that small to medium-sized enterprises should be especially interested because Riverbed's products will save them money immediately, in the form of lower bandwidth costs, less distributed IT infrastructure, and simpler network infrastructure. He says, "For example, a company with 10 remote branch offices may have one or more file servers in each branch, an Exchange server in several, and a tape backup autoloader in every branch too. The branch offices are probably connected with a T1 or DSL connection to the Internet or via an MPLS network, and there is almost certainly pressure to upgrade the link, which can be a significant expense."

Riverbed enables the centralization of file servers, mail servers, and tape autoloaders from branch offices. This way the company has no more servers to manage or maintain in the branch. The data is backed up in the data center, and the problem of media management and storage disappears. He says the ongoing costs of distributed servers are typically three to five times the capital cost, so by eliminating them, customers are actually realizing a cost savings equal to a multiple of the hardware cost. Plus, the need to upgrade the WAN link is almost certainly eliminated.

Saldich says the outlook on the WAN optimization and WAFS market is positive. He says the market is estimated from several hundred million to over a billion dollars. In terms of Riverbed, Saldich says, "Expect new WDS-based products, faster growth, and even better performance. We passed the 300 customer mark in October and expect revenue to continue accelerating."

---

## TWO TERMS

### ▌ SMB (small and medium-sized business)

**What it is:** There are hundreds of large enterprises in America, but there are *millions* of small and medium-sized businesses. These businesses range from small "mom-and-pop" operations with very few employees to fairly large medium-sized companies. A small business may have anywhere from one to, say, 50 employees. Beyond 50 employees, a small business may be called an enterprise. In most cases, medium-sized enterprises are defined as those having 500 to 1,000 employees. Once a business gets beyond 1,000 employees, it's considered a large enterprise.

**Why you should care:** Major manufacturers are now paying attention and developing products and services for SMBs. Many have features similar to their big enterprise siblings at lower prices, so they deliver the functionality without busting budgets.

**Related products and manufacturers:** Major manufacturers such as HP, IBM, and Sun are developing entire product lines for SMBs. Products range from network gear to servers and software products such as OSes, utilities, and security applications.

### ▌ SMB (Server Message Block)

**What it is:** SMB is a communications protocol that enables client computers to access network-based server resources, such as shared drives on servers or networked printers. Clients connect to the network-based servers via an established network communications protocol and send SMB commands that enable clients to access server shared drives and manipulate them as if they were a local disk drive. Users on client computers can read, write, create, or delete files on server-based shared drives. SMB works with a variety of network protocols, including TCP/IP and NetBEUI.

**Why you should care:** SMB is one of the fundamental building blocks that makes the client-server computing model tick. SMB messages are used by client computers to exchange information with servers and perform tasks such as accessing, creating, modifying, or deleting files on networked drives. If you have client computers accessing networked servers, you are using SMB.

**Related products and manufacturers:** An implementation of SMB is an open-source software product called Samba that lets Linux/Unix servers communicate with Windows-based clients as if they were Windows servers. Samba uses a version of the SMB protocol called Common Internet File System.

---

### Next Week In *Processor* . . .

**Coming In Our December 2 Issue:**

If your data center is like most at a small to midsized enterprise, you're likely looking for ways to beef up security, find and retain quality employees, improve backup and recovery, and implement wireless technologies. Check out our collection of the best tips in those fields.

You'll also find:

- Information and advice on data center consolidation
- Tips for connecting laptops through a cell connection
- A comparison of the leading network monitoring products
- In-depth overviews of five new IT products you may need

**Be sure to visit Processor.com to find each week's issue online. You can view issues as a PDF or search our article database for the information you need.**

## Wireless Analysis
www.Processor.com/Test-Um

**Wi-Net Window Network Wireless Detector/Identifier**
• Detects all 802.11, a, b & g wireless signal types & displays strength
• Shows multiple detections and ID of each
• Displays Internet access capability & encryption status
• Pings equipment for IP address access, Router, DNS, etc.
• Negotiates with DHCP for component identification
• Shows Ad-hoc and Twin network configuration

Only **$229**

**Test-Um Inc.**
The Intelligent Test Solutions Company

808 Calle Plano                    Camarillo, CA 93012
Phone: (805) 383-1500              Fax: (805) 383-1595

## Wireless Security
www.Processor.com/Bluesocket

Bluesocket® provides a complete WLAN solution including a wide range of scalable BlueSecure™ Controllers that act as a firewall between the wireless LAN access points and the wired LAN, and require no changes to existing infrastructure or user client software. Additional BlueSecure Controllers can be connected to provide hot failover capability, as well as scalability and subnet mobility across the enterprise.

**bluesocket**

10 North Ave.
Burlington, MA 01803
Phone: (781) 328-0888
Toll Free: (866) 633-3358

## Wireless Security
www.Processor.com/BlueRidge

Starts At
**$4,205**

**BorderGuard - More Secure Than Wired Networks**
**An easy-to-use platform for all WLAN, wireless VPN and traditional remote access needs.**
• Includes BorderGuard™ VPN appliance, secure network roaming Client, and Tunnel-Lock™ endpoint security
• Embedded, strong bilateral authentication
• FIPS 140-2 & Common Criteria cert; HIPAA compliant

**BLUE RIDGE**
N E T W O R K S

14120 Parke Long Ct.                Chantilly, VA 20151
Phone: (703) 631-0700               Fax: (703) 631-9588

## Data Collection
www.Processor.com/PCAmerica

**Palm Pilot with Scanner**
The SPT 1800 Series of handheld computers offers an advanced Palm Powered solution for your mobile workforce. This family of rugged mobile computers combines integrated scanning with the Palm OS platform. The durable casing of the SPT 1800, combined with integrated bar code scanning, provides the perfect platform for stock-taking, deliveries & all other mobile computing needs.

Starting at
**$995**

**PCAmerica**
Retail and Restaurant Solutions

60 North Avenue, Suite 40          Congers, NY 10920
Phone: (800) 722-6374 x228         Fax: (845) 267-3550

## KVM
www.Processor.com/Rose5

**Remote Server Management - UltraLink™**
• Connect to remote computers by Ethernet or dial-up
• Secure encrypted operation
• Scaling, scrolling, and auto-size features
• Available in one, two, and four user models
• Local KVM port to access computers at UltraLink unit
• Up to 1280 x 1024 resolution, suports all platforms

**ROSE**
ELECTRONICS

10707 Stancliff Road
Houston, TX 77099
Phone: (800) 333-9343
Fax: (281) 933-0044

## KVM
www.Processor.com/TrippLite3

**$4,500**MSRP

Control up to 32 computers by up to four independent, simultaneous users in just 1U of rack space. Features on-screen display, hotkey control and three-level password security.
• Control any combination of PS/2, USB and Sun computers at distances up to 500 ft
• Daisy-chaining/cascading enable control of up to 4,096 computers
• No special software required
• Flash upgradeable firmware

**TRIPP·LITE**
POWER PROTECTION

1111 W. 35th Street
Chicago, IL 60609
Phone: (773) 869-1234
Fax: (773) 869-1329

## KVM
www.Processor.com/Rose4

**Multi-User KVM Switch - UltraMatrix™ E-series**
• Connect 1,000 computers to multiple user stations
• PC or multiplatform (PC/Unix, Sun, Apple, others)
• Advanced visual interface (AVI)
• Powerful, expandable, low cost
• Free lifetime upgrade of firmware
• Security features prevent unauthorized access

**ROSE**
ELECTRONICS

10707 Stancliff Road
Houston, TX 77099
Phone: (800) 333-9343
Fax: (281) 933-0044

## KVM Accessory
www.Processor.com/Arise3

LKM-115/117

• 1U/2U rack mount LCD/Keyboard/Trackball
• 15" or 17" TFT Color LCD
• Trackball or Touchpad
• 6U/8U Panel Mount Available
• Optional KVM Switch Functions

**ARISE**

453 Ravendale Drive
Mountain View, CA 94043
Phone: (650) 428-0868
Phone: (781) 937-9888

## KVM Accessory
www.Processor.com/Rose

**Rack Mounted KVM Drawer - RackView™**
• 15", 17", or 19" LCD Panels
• Built-in single or multiple user KVM switch options
• Supports AT/XT, PS/2 and Unix computers
• Front Panel conceals unit when it is not in use
• Keyboard available in international variations
• LCD flat panel and kybrd/trackball can be sold separately

**ROSE**
ELECTRONICS

10707 Stancliff Road
Houston, TX 77099
Phone: (800) 333-9343
Fax: (281) 933-0044

## KVM Accessory
www.Processor.com/RackmountSolutions

**Rackmount TFT / LCD Drawer**
**Superb Quality • Unparalleled Versatility**
**More choices than you ever dreamed of!**
• 13", 15", 17", 19"
• Touch pad, track ball, real mouse
• With or without 4, 8 or 16 port KVM
• 1U or 2U for independent monitor/keyboard use

**RACKMOUNT SOLUTIONS, LTD**
where customer service matters

915 S. Jupiter Road
Garland, TX 75042
Phone: (866) 207-6631
Fax: (972) 276-6484

## KVM Accessory
www.Processor.com/Recortec

**15", 17", 19" TFT 2U KVM UNITS**
• Keyboards with touchpads, trackballs and standard mice
• Many options available (PS/2, USB, locks, retainers, etc.)
• 13.25" deep (15" and 17" models) 14.9" deep (19" model)
• Supplied with full ext. smooth-action ball bearing slides
• Many other 1U & Panel Mount TFT display configurations
• USA manufacturer of a variety of rack mount products

**RECORTEC**

1620 Berryessa Road              San Jose, CA 95133
Phone: (800) 729-7654            Fax: (408) 729-3661

## KVM Accessory
www.Processor.com/ChassisPlans

Model
CPR-27201

**Rack Mount 1U 20.1" LCD Keyboard**
**Only From Chassis Plans!**
• 1U rack mount – only 1.75" high
• 20.1" TFT 1600x1200 UXGA LCD
• Picture in Picture
• Multiple keyboard options including Sun and NEMA
• Optional KVM available

**CHASSIS PLANS**
The Original Industrial Computer Source®

8295 Aero Place
San Diego, CA 92123
Phone: (858) 571-4330
Fax: (858) 571-6146

# A Clear View to Productivity

DoubleSight provides an economic, easy-to-use technique for displaying as much data as a single 30 inch LCD monitor. Users have an instantly clear view of their programs instead of time-consuming switching between programs or document windows with overly crowded desktop space and limited viewing. By performing fast reactions to multiple information sources, DoubleSight users can experience significant productivity increases ranging from approximately 20 to 50 percent by easily managing their multiple programs simultaneously. Unlike large-screen monitors that often sacrifice legibility to offer more desktop space under a high resolution, the DoubleSight dual LCD monitor can effectively provide large desktop space in a legible format.

### Stylish, Sturdy Design

Doublesight Displays introduces several new key features with the DS-1700 and DS-1900 Models:

- Height adjustable stand
- Tilting/sliding panes brackets
- Easy to assemble solution (no tools required; assembles within minutes)

These new added features combine a stylish appearance with a unique, light yet sturdy design that requires a minimum of desk space. Doublesight's ergonomic efficiency improves the user's natural perception and ability to multitask by employing a primary "focal point" screen as well as a second screen for supporting peripheral vision.

### Why Doublesight Displays?

PCs are cheaper and faster, networking/storage is more accessible at affordable rates, data communication is moving faster and faster..... the true bottleneck is the monitor.

### Answer:

- Improve Office Productivity by 20-50% (proven by Microsoft)
- View multiple programs at once
- Space saving design
- Height adjustable stand/arms
- Easy to assemble
- 3 Year advanced replacement program
- 3 Year limited warranty

### What's the Best Way to Get More Pixels?

- 15" DoubleSight displays as much data as a single 20-inch monitor
- 17" DoubleSight displays as much data as a single 23-inch monitor
- 19" DoubleSight displays as much data as a single 30-inch monitor

**www.Processor.com/DoubleSight**

18 Technology Dr., Suite 161
Irvine, CA 92618
Phone: (949) 253-1535 Ext. 211
Fax: (949) 253-1537

## Audio/Video Editing – Data Backup – Imaging
## Surveillance Systems – Database Storage – File Servers

Sans Digital is a provider of high-capacity, multi-functional advanced storage systems that can be used by various industries, including Corporate Businesses, Government Facilities, Educational Institutions, the Creative Professional Industry, as well as Large Scale Enterprises. Our products provide great solutions for companies and individuals across the world who need effective and reliable data storage systems.

### MR5S1

**Special Price: $1,190**

- Compact external solution designed for portable data storage.
- Utilizing a SCSI Ultra 320 host interface scales up to 2.5TB of capacity.
- Five hot-swappable, SATA drive trays with RAID 5 failsafe file protection.
- Durable, Stylish aluminum housing with a user-friendly front LCD panel.

### ER316S/F2/F4

**Starting at: $4,995**

- Combines ultimate data protection with superior system performance.
- Latest 2/4 Gbps Dual Fiber Channel of proven SCSI Ultra 320 host interface.
- Store up to 8TB of data with a State-of-the art RAID 6 engine for the most mission-critical applications.
- 16 Hot-Swappable SATA drive trays with redundant cooling module and power supply.
- Durable, heavy-duty steel housing and a slim control panel with built-in LCD.

For more information: www.Processor.com/SansDigital2

10038 Pioneer Blvd.
Santa Fe Springs, CA 90670
Phone: (562) 949-1988
Fax: (562) 949-3328

---

## CD/DVD Duplicator
### www.Processor.com/Microtech

**Professional High Quality, Automated CD/DVD Duplicator System**

- Fast Robotic Handler
- 24/7 Disc Production
- 200 Disc Capacity
- 2 CD or DVD Recorders
- Integrated Windows PC
- High Quality Inkjet or Thermal Printer
- Locking Security Cover Option Available
- Compact Modular Design

2 Davis Drive
Belmont, CA 94002
Phone: (800) 223-3693
Fax: (650) 596-1915

## CD/DVD Duplicator
### www.Processor.com/Condre

DVD / CD-R Tower Duplication System from the leader in CD - DVD-R Duplication, Condre Technology. Featuring 16X / 24X recording speed for DVD and CD-R, with a USB 2.0 connection for direct interface to PC or Mac. Ruggedized enclosure with multiple cooling fans for 100% Duty Cycle Performance, 80 gig internal hardrive supports both DVD - R and DVD + R.C Call today for details!

**$2495**
MSRP

15151 Technology Dr.
Eden Prairie, MN 55344
Phone: (952) 294-4900
Fax: (952) 937-8365

## Solid State
### www.Processor.com/BM2

Starting at
**$5400**

**Inject Speed Into Your Network**

Decrease data access times and increase data transfer rates with the most innovative and reliable E-Disk®SAN "Solid-State Flash Drives". Pure solid state & non-volatile * Fibre Channel, SCSI interfaces * RAID/JBOD configurations * Patented security, data protection features * Made in USA

45550 Northport Loop East
Fremont, CA 94538-6481
Phone: (510) 743-3475
Fax: (510) 743-3155

---

## Solid State
### www.Processor.com/TiGi

**$2,750**
4GB System

**TiGiJet™ accelerators (Solid State: 4-6GB) eliminate I/O bottlenecks and dramatically improve the performance, scalability and ROI of enterprise-class applications.**

- Accelerate MS SQL & Oracle performance up to 2300%.
- Increase scalability of Citrix servers by 100% to 300%.
- SCSI device that is application and OS independent.
- **For further information, visit www.Processor.com/TiGi**

2070 Chain Bridge Road, Suite G100
Vienna, VA 22182
Phone: (703) 462-2550
Fax: (703) 462-2559

## Direct Attached Storage
### www.Processor.com/SansDigital

**Model ER212S/F**

**Starting at: $4,690**

**Sans Digital** ER212S/F is a high capacity, multi-functional advanced storage solution for various applications such as **Audio/Video Editing, Data Backup, Surveillance Systems, Database Storage, Imaging, File Servers** and many others. This product provides a great solution for companies and individuals across the world who need effective and reliable data storage systems.

10038 Pioneer Blvd.
Santa Fe Springs, CA 90670
Phone: (562) 949-1988
Fax: (562) 949-3328

## Direct Attached Storage
### www.Processor.com/Rancho

The **MiniSTOR JBOD** family is designed to support the next generation of storage technology. The JBOD enclosure is extremely cost, cost effective, and highly scalable based on the 2.5" drive technology with a wide range of interfaces for SCSI, SATA, SAS, and Fibre Channel. Supports Ultra320 SCSI, SATA I and SATA II, and Serial Attached SCSI interface (SAS).

10783 Bell Court
Rancho Cucamonga, CA 91730
Phone: (909) 987-3966
Fax: (909) 989-2365

## Storage Component
### www.Processor.com/Alacritech

For the fastest, easiest to use and most affordable iSCSI Controller, try the Alacritech SES1001 iSCSI Accelerator -the only product that accelerates the Microsoft iSCSI Software Initiator. Based on Alacritech's proven SLIC Technology®, the basis of industry-accepted TCP/IP Offload Engine (TOE) solutions, the SES 1001 delivers unsurpassed iSCSI performance and efficiency.

**Alacritech**

234 East Gish Road
Phone: (877) 338-7542

San Jose, CA 95112
Fax: (408) 436-0114

## Storage Component
### www.Processor.com/Adaptec2

1 & 2-channel advanced PCI-X  SCSI RAID
Adaptec 2130SLP/2230SLP
• PCI-X, 64-bit, 133 MHz, 128 MB DDR Memory
• Low-profile with integrated RAID On Chip (ROC) ASIC
• RAID 0, 1, 10, 5, 50, JBOD
• Seamless Streaming Technology, Optimized Disk Utilization, Online Capacity Expansion, Full OS support

**adaptec**

691 S. Milpitas Blvd
Milpitas, CA 95035
Phone: (408) 945-8600
Fax: (408) 957-5601

## Storage Component
### www.Processor.com/Promise

**4-Port Enhanced Serial ATA 1.5G RAID 0/1/10**
Solution for workstations and entry-level servers requiring data protection (RAID 1/10) or performance (RAID 0) • Supports Native Command Queuing and Tagged Command Queuing for better performance • Combine with SuperSwap 1100 or SuperSwap 4100 for an advanced internal storage system • Disk Activity LED Headers

**PROMISE TECHNOLOGY, INC.**

580 Cottonwood Drive
Milpitas, CA 95035
Phone: (408) 228-1400
Fax: (408) 228-0730

## Storage Component
### www.Processor.com/Adaptec

2, 4, 8, 16-port  SATA RAID Controllers
Adaptec 1210SA, 2410SA, 2810SA, 281610SA
• SATA RAID from the SCSI/RAID Data Protection leader
• Features Adaptec Optimized Disk Utilization, Online Capacity Expansion, RAID Level Migration
• Hot Swap capability & Optional Battery back-up
• Adaptec Storage Manager software

**adaptec**

691 S. Milpitas Blvd
Milpitas, CA 95035
Phone: (408) 945-8600
Fax: (408) 957-5601

## Storage Component
### www.Processor.com/areca

**PCI-Express SATA II 3Gb/s RAID Controller**
Featuring RAID 6 and also 0, 1, 0+1, 3, 5 and JBOD 4, 8, 12, 16, 24ports, Intel I/O Processor, DDR Memory Online RAID Level/Stripe Size migrations, Online RAID Capacity expansion and RAID level migration simultaneously, NCQ and Staggered Spin-up Support, Battery Backup ready, I2C, Full OS Support.

**areca** ®

2861 Saturn St. Unit B
Brea, CA  92821
Phone: (714) 961-0800
Fax: (714) 961-0899

## Storage Component
### www.Processor.com/Bason

• For SATA Hard Drive
• Fits standard 5.25" bay
• Aluminum sided
• 3 built-in fans
• Auto-close doors keeps dust out
• Key lock to secure your data
• 1 Year Warranty

**BASON COMPUTER**

555 E. Easy Street
Phone: (805) 426-1000

Simi Valley, CA 93065
Fax: (805) 426-1011

---

*Manufacturer Presentation*
*advertisement*

2U Header

# ENTERPRISE
# NAS

# ENTERPRISE
# DAS

24-bay solution

# SATA-II 3Gbps

**NetStor WSS** - Network Attached Storage
*The most configurable and most powerful NAS product in our storage lineup with unmatched flexibility, performance and value. . .*

**Windows Storage Server 2003**

### NAS Header:
The core of the solution is contained in the **NetStor WSS** NAS "Header", controlling all data in and out of the server and housing the operating system. There are three base models to choose from and find the best match for your needs.  All models feature available Dual Intel Xeon 3.0GHz EM64T CPU's with an 800MHz FSB and 4GB of DDR2 PC-4200 ECC Registered memory.  That's fast!   The header also holds the 15,000rpm Ultra320 SCSI or SATA-II 3.0 Gbps hard disk drives in a Hardware RAID 1 configuration, keeping the operating system safe.  Dual GigE (100/1000Mb) Ethernet interfaces are standard, and you can bet there are enough options to satisfy your every want.

### Storage Arrays:
All of Excel Meridian's SecurStor RAID storage arrays have been certified  to work with the **NetStor WSS** NAS header, and the sky's the limit.  Capacity is scalable to 128TB per NAS and you can choose any of our SecurStor RAID array types to best meet your specific application needs.  You can even connect to an existing SAN for the ultimate in storage virtualization (Block-level to File-level conversion).

**www.Processor.com/ExcelMeridian5**

► **Windows 2003 Certified**
► **Snapshot file system**
► **File replication services**
► **Distributed file system**
► **Bare Metal recovery**
► **64TB capacity shares/volumes**
► **Scalable to 128 TB**
► **Anti-virus built-in**
► **Advanced security technologies**
► **SAN-to-NAS Gateway available**
► **iSCSI, SCSI, FC or SATA storage arrays**

### SecurStor 24 SATA *RAID*

► **Up-to 12 TB Capacity per 4U Chassis**
► **Extreme high performance**
► **Full featured  RAID capabilities**
► **Up-to 1GB memory**
► **Redundant failover controller available**
► **Hot swappable disk drives, cooling modules and power supplies minimizes downtime**
► **72-hour battery backup available**
► **Integrated easy-to-use GUI management software compatible with any operating system platform**

*Now Shipping*
**500GB drives**

**www.Processor.com/ExcelMeridian10**

**excel MERIDIAN DATA, INC.**

**Specializing in Server Backup/Disaster Recovery**
Direct Attached Storage  •  Network Attached Storage  •  Storage Area Networks

*Call* **800-995-1014**

**Introducing**

# CTX Industrial Solutions
## and innovative Digital Signage

## CTX 1U Rack Mount Console Drawer

CTX's new LDS 1U rack mount console drawer is an all-in-one unit that combines an LCD monitor, keyboard, and point device, all within its ultra-thin (1.75" high) console. Its space saving design and industrial durability makes it the ideal rack mount solution for network administration, telecommunication, mobile applications and more! The 1U rack mount is constructed with durability in mind. With a combination of steel and aluminum, it is lightweight and cost-effective to be used in most commercial and industrial applications

**Available: 15", 17", 19" ( 8-port optional)**

Starting at
## $899
LDS210D

## Digital Signage - MediaView/SmartView

- Applications include tradeshow display, advertisement, point-of-purchase
- Featured remote control allows different play modes to loop, autoplay, and program
- Play format includes MPEG 1/2/4, JPG, and MP3
- Built-in speakers or earphone
- Video output features single composite or S-Video
- Output format in PAL or NTSC
- Uses compact flash

**7" - 32" models**

## Open Frame LCD Monitor

- Grade A TFT/LCD panels ranging from 6.4" to 32"
- Integrated with touch screen options
- Integraed with high brightness and exclusive transflective technology options
- Integrated with waterproof NEMA 04/IP 65 options
- Designed for commercial, industrial, and custom applications.

**6.4" - 32" models**

## POS2500C Touch Screen - All-in-One

- Designed for harsh food service and retail conditions
- 15" A grade TFT LCD panel
- Built-in CPU
  - Intel Socket 370 Processors, Front Side Bus 66/100/133 MHz Pentium III (Tualatin) up to 1.26GHz, Celeron up to 1.5GHz
- Internal 802.11g wireless LAN

## POS2200 Series Touchscreen

- Designed for harsh food service and retail conditions
- Integrated ELO five-wire resistive touchscreen RS-232
- Easy touch on-screen display (OSD)
- Base removable for VESA mounting option
- 15" A grade TFT LCD panel

---

*CDW* The Right Technology. Right Away.™
888.300.4239
cdwsales@web.cdw.com
www.cdw.com

*AVNET* Applied Computing Solutions
800.332.8638
www.avnet.com

*INGRAM MICRO*®
800.456.8000
www.ingrammicro.com

*D&H*
800.340.1001
www.dandh.com

For more information about CTX products, call (877) 893-6886 or visit us at www.ctxtec.com

**CTX INDUSTRIAL**

www.processor.com/ctx7

---

*Manufacturer Presentation*
*advertisement*

## Data Center Design
### www.Processor.com/ConstantTech

**Constant Technologies offers a true turnkey solution for Command and Control rooms.** All consoles and audio/visual systems are designed, installed, and serviced by Constant Technologies' in house personnel. You need not deal with multiple vendors or subcontractors for service. Constant Technologies is the **single source** for your Command Center installation.

125 Steamboat Avenue
Wickford, RI 02852
Phone: (401) 294-7171
Fax: (401) 294-7505

## Data Center Design
### www.Processor.com/CSI

From the early planning and programming phase of a project, CSIE's Technology Specialists can provide the critical information link between your Information Technology Mission and the planned facility infrastructure. The Technology Specialists will evaluate your current technology system, equipment, and performance, and work with you to develop a technology plan for today, tomorrow, and the future that will help ensure your business continuation. CSIE's Technology Specialists can provide IT systems growth modeling, systems evaluations, best-of-breed analysis, recommendations for system upgrades, vendor comparisons, detailed IT systems design, plans, configurations and implementation management. CSIE has successfully completed over 2,500 data center / infrastructure projects.

**Visit www.Processor.com/CSI for more info!**

12240 Indian Creek Ct., Ste. 140
Beltsville, MD 20705
Toll Free: (866) 294-2743, ext. 248
Phone: (301) 210-9090, ext. 248

## Hosting/DR Site
### www.Processor.com/ASA

| Vertical Space | Power included | Server allowance | Monthly Fee | Throughput GB/Month |
|---|---|---|---|---|
| 1 | 1amp | 1 | 50 | 20 |
| 4 | 2amp | 1 | 150 | 40 |
| 8 | 4amp | 2 | 200 | 40 |
| 16 | 4amp | 4 | 400 | 60 |
| 24 | 5amp | 6 | 600 | 80 |
| 42 | 5amp | 16 | 1100 | 160 |

Competitive co-location services. Your servers at our state-of-the-art location: Monthly charges as low as $50/month No setup charges! Terms: month to month. Vertical space is measured in rack units (1RU=1.75 inches). One IP per server only. Additional bandwidth $64/64Kbps. Additional IPs for $10 (one-time fee). Build, maintain and install systems for an all-inclusive fee. Call for additional services.

2354 Calle Del Mundo
Santa Clara, CA 95054
Phone: (408) 654-2901
Fax: (408) 232-5959

## Hosting/DR Site
### www.Processor.com/Telepacket

hostingpacket™ For businesses with mission critical applications, heavy traffic or database-driven content, Managed Dedicated provides increased speed, performance and control.
**Dedicated Hosting 1** - Only $59.95 per Month
1.7GHz Celeron • 80GB Hard Drive • 512MB RAM • 1600GB Bandwidth Unlimited POP3 • Plesk 7 Control Ideal For: FTP Server, Site / Application Development Server, Staging Server, Low user email.
**Dedicated Hosting 2** - Only $99.95 per Month
3.0GHz Pentium • 120GB Hard Drive • 1024MB RAM • 2600GB Bandwidth • Unlimited POP3 • Plesk 7 Control Ideal For: Dynamic HTML, ASP, ASP.net, Load balance web, Mid-range email Server, Hot back-up, E-commerce.
**Dedicated Hosting 3** - From $109 per Month
• Create Your Own Dedicated Server!

27455 Tierra Alta Way, Suite A     Temecula, CA 92590
Phone: (714) 263-9000     Fax: (714) 263-9001

## Hosting/DR Site
### www.Processor.com/IT-Life

**The best time to respond to a disaster is before it happens.**

**Consider some of today's threats:**
Malicious Hackers • Destructive Viruses • Operator Error Disgruntled Employees • Manmade Disasters Natural Disasters • Terrorism

**IT-Lifeline Services Offered:**
Outsourced Data Backup & Recovery • Fully Enabled Business Continuity Hot Suites • Information Technology Continuity Planning • Server Co-location • Disaster Recovery Testing • Emergency Response Services

**Waiting for disaster is a dangerous strategy. The real disaster is not being prepared!**

23403 East Mission
Liberty Lake, WA 99019
Phone: (509) 455-7008

## Hosting/DR Site
### www.Processor.com/Rackspace

Rackspace offers managed hosting solutions and a wide range of services that include storage management. Scaling your storage can be expensive and time consuming. At Rackspace, we manage your infrastructure and your storage needs, leaving you free to focus on growing your business.

Our Storage Area Network (SAN) infrastructure provides highly flexible and scalable data storage, which enables more efficient movement of data between servers and various storage systems. Our SAN can be added to any of our managed Windows or Linux servers and is fully supported 24x7 by certified, expert technicians.

• Fanatical Support ™
• Performance
• Reliability     Find Out More At:
• Scalability     **www.Processor.com/Rackspace**

9725 Datapoint Drive, Suite 100
San Antonio, TX 78229
Toll Free: (800) 961-2888
Phone: (210) 447-4000

---

*Manufacturer Presentation*
*advertisement*

# Data Protection Services

### Online Backup & Recovery
AmeriVault offers reliable, secure, automated backup and recovery services to data dependent companies. Our system-driven methodology assures fail-safe backup solutions that exceed customer expectations and assure recovery at the time of data loss or destruction. By utilizing best-of-breed software, bandwidth and a world-class data center, AmeriVault delivers highly available backup and recovery services over the Internet or VPNs that make traditional tape back-up and off-site data storage obsolete.

### Email Archiving
AmeriVault Archive-Comply delivers automated offsite electronic record archiving in a a single solution that mitigates risk, fulfills compliance mandates, and makes legal discovery a breeze. Clientless implementation combined with the AmeriVault knowledge base translates into a painless path that accelerates corporate governance and compliance efforts while avoiding lengthy in-house installs that void disaster recovery plans.

### Data Replication
AmeriVault is passionate about data protection and understands the threats and costs related to data interruptions or disasters. For your business-critical applications that won't tolerate Recovery Point Objectives (RPOs) of days, hours or minutes, AmeriVault delivers highly acclaimed XOsoft™ WANSync solutions to give you continuous data protection and high availability.

### Mobile Vault Recovery
AmeriVault clients execute over 90% of data restores by simply making a few clicks on the CentralControl interface. However, for recoveries requiring larger data volumes, an online restore may not be the most efficient. In such a case, AmeriVault is able to return client data via tape media but if the client has no tape drive, we have a fleet of disk-based Mobile Vaults that avoid tape altogether.

# AmeriVault
**(800) 774-0235 • www.Processor.com/AmeriVault**

---

## If you think we look good in print, you'll love our Web site!

The Processor.com Web site provides the most up-to-date information on computer equipment for sale.

**Search** for equipment by entering the part number or the make, model, or description for a quick search. Or click a manufacturer name and browse the list of products.

**Post** your own computer equipment **For-Sale Listing.**

**Post** a **Want-To-Buy Message** if you can't find what you're looking for.

**PROCESSOR**.com

## Multiple IT Services
### www.Processor.com/NetworkAllies

Network Allies, LLC is a technology product and services company providing design and product solutions for the following communities: IT, Home Automation, Embedded, Rugged COTS, Engineering and Manufacturing.
We partner with key customers and technology providers to find the ideal solution. Technology partners include: Microsoft, Intel, Acer, Cisco, AMD and Hewlett-Packard.

410 Great Road
Littleton, MA 01460
Phone: (978) 486-0300
Fax: (978) 486-0195

## Multiple IT Services
### www.Processor.com/STG

Signature Technology Group provides maintenance of IT products & offers maintenance-related services.
• Hardware Maintenance - PCs to Mainframes
• Value - Improved Service at Lower Costs
• Clients - Fortune 500 - Government - Education
• Global Dispatch - Tracking every service call
• Flexible Data Base - Assures Adherence to SLAs
• Certified Technicians - Quality Management
• Multilevel Logistics - Parts on Demand
Our customized database information is retained & referred to for real time access by STG's management & clients, and analysis often results in changes and improvements to our support plans.
STG's global technical team performs 24 hours a day, 7 days a week, 365 days a year. Please call us for more information or to request a no obligation quote.

2424 West Desert Cove Avenue
Phoenix, AZ 85029
Phone: (800) 229-7900
Fax: (602) 470-1112

*Manufacturer Presentation*
advertisement

# LCD/3 Control Room Consoles
## Perfect Low Profile Height with Ergonomics Built In.

Security, broadcast to control rooms, the LCD/3 offers a 39" high low-profile that allows guards and operators to see over and beyond the console to watch monitor display walls or keep in contact with fellow employees. For ideal ergonomics, the LCDs angle back for proper viewing angle and distance. The LCD/3 console comes with 21"H (12U) rack space for mounting electronics, convection or fan cooling, open pedestal for wire management, lift-off or hinged doors and wire grommet holes to route keyboards, mice and phones from the work surface. Formed and welded steel frame construction with steel or TruForm wood side panels and work surface make the LCD/3 an attractive, economical console.

## LCD/3 Features & Benefits
• Lowest profile for easy operator viewing
• Create in-line straight, convex or concave corner consoles
• Multiple-tier options for vertical expansion
• Superb wire management throughout console interior
• TruForm work surfaces and side panels in multiple color options

## General Description
The system shall be comprised of floor mounted base module below the work surface with a minimum of 14" (8U) rack space per module. Top 21" (12U) slope modules or LCD monitor pivot mounts above the work surface, assembled together to form an operator work station. Two removable rear panels with 1/2", 3/4",1", and 1-1/2" NEMA custom knockouts & a open base for power & cabling. The system shall have a minimum 1-1/8" (29mm) thick MDF core with PVC covering the entire substraight to create a TruForm work surface. The work surface shall be not less than 15" (381mm) deep overall and shall have a 1-3/4" (44mm) beveled edge along the entire front width.

Module upper section shall allow for a minimum slope of 33° away from the operator for all electronics placed above 19-3/4" (502mm). The sloping module shall accommodate LCD or CRT monitors in a 21" (12U) maximum rack height. Add-on-top modules shall allow for a vertical or a tilt of 27° towards the user of all electronics placed above 38-1/4" (972mm) height from floor level.

Top modules shall be provided with removable equipment finishing masks, where required, and cut to the face size of the specified electronics.

## Steel Exterior Finishing Panels
Exterior steel finishing panels shall be a minimum of 20 gauge (.035) sheet metal and attached to the self supporting superstructure framework. All fastening to be unseen from external view.

Side and top finishing panels shall be either slide on, lift off or bolt on type to facilitate ease of access for servicing and shall not require any further mechanical support to provide a secure connection to the system.

Steel or wood finishing panels may be applied following final termination test and commissioning of the specified electronics or earlier as directed, to facilitate a timely and efficient installation and to minimize potential damage to the exterior of the system by others.

## Finish and Color
All exterior and frame steel components including drawers, blank panels and shelving shall have a pre-finish of zinc oxide wash primer with a baked black powder coat paint finish of the following specifications.

Self supporting frames and work surface supports are to be supplied in the following color: HBT4-20007 Black.

Side, top, and rear panels, drawers, shelving, and blank filler panels are to be in the following color: HBT4-20007 Black.

All wooden components are to be supplied with a high pressure laminate or PVC film covering the MDF core.

The manufacturer shall provide a written *ten year guarantee* against defects of all component parts, material and workmanship under normal use.

### Winsted Corporation
10901 Hampshire Avenue S  Minneapolis, MN 55438 USA
Tel: 800-447-2257 952-944-9050 Fax: 800-421-3839 952-944-1546
## www.Processor.com/Winsted2

**Winsted**